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# Railway Age

SECOND HALF OF 1918—No. 21

SIXTY-THIRD YEAR

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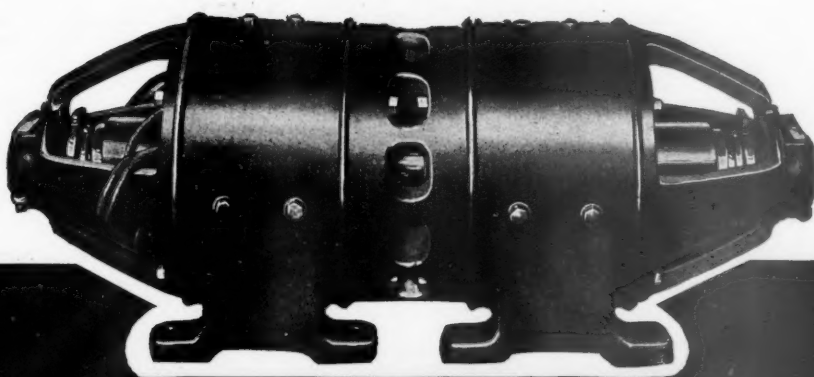
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# Railway Age

Vol. 65 November 22, 1918 No. 21



*The Light Railway in Its Work of Mercy. Canadian Official Photo from Underwood & Underwood, N. Y.*

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# EDITORIAL

## Railway Age

The recent circular issued by the Division of Operation of the United States Railroad Administration concerning rules

### Testing and Developing New Devices

for the investigation of new devices or inventions has, we believe, been misinterpreted by many railroad men. As we understand the circular, it contains rules and plan of procedure for persons wishing to interest the mechanical department of the Railroad Administration in their particular apparatus or devices. It does not necessarily mean that the individual railroads will be obliged to follow this circular before they proceed with any investigations or tests. In the *Railway Age* of September 6, page 431, the last paragraph in the item under Rules for Submission of New Devices states: "Nothing in the foregoing is intended to prohibit any railroad from testing and developing devices invented by its employees, or testing other devices which in the opinion of the officers of the road have sufficient merit to warrant it." While this paragraph was omitted from the circular put out by the director of the Division of Operation, it is understood on good authority that it applies to the case. It would be the height of folly and it would greatly hamper the development of improvements on the roads unless this freedom were permitted.

The state railroad commissioners at their annual convention last week made it perfectly clear where they are going to stand

### State Commissioners as Standpatters

on the question which will probably become a vital issue shortly as to the future disposition of the railroads. They are going to occupy a position of strenuous opposition to any plan of government ownership or operation of the railroads which would interfere with their rights, powers, prerogatives, occupations, salaries or other emoluments, which means any plan which would be likely to find much support outside of the ranks of the state commissioners. They find no comfort at all in the present order of things, because while the director general has expressed a desire for their co-operation and a willingness to have the benefit of their knowledge of local conditions, he has let it be known that he prefers to act upon their recommendations where they do not run counter to his purposes rather than to allow them a very large field for the exercise of the authority conferred upon them by state laws by issuing orders. For similar reasons they are likely to be found opposed to any plan for the operation of the railroads which may be advanced as a compromise between government ownership and the former condition of competitive private management and dual state and interstate regulation. Any such plan which might be adopted for the purpose of removing the disadvantages of the former system could hardly be expected to eliminate the advantages resulting from competitive operation for the sake of securing the benefits which might result from unified operation, and at the same time permit the continuance of competition in regulation. Apparently the state commissioners, in their anxiety to safeguard the powers of local tribunals over the instrumentalities of national commerce, are again putting themselves in the standpat attitude which they occupied before the Newlands committee. While they passed resolutions urging legislation to define the future status of the railroads, they offered no sug-

gestions except that any plan adopted should keep them on the job. We fear they are going to be hard to satisfy.

The Imperial Government Railways of Japan have been sending a more than ordinarily large number of representa-

### Our Japanese Railway Friends

tatives to this country during the past few years to study American railroad practices and methods. Doubtless this increased representation is due to the fact that war conditions prevented their making similar studies in Europe. What sort of men are these representatives, and how should we treat them? Inquiry shows that they are all men of exceptionally good education and training and that they are apparently in line for important official positions on the Japanese railway system. American railroad officers have been glad to furnish them with such technical information as they were desirous of obtaining, but it would appear that they could well afford to go a step further in the interests of our own country and its future relationship to Japan. It is understood that some of the representatives have gone back to their own country with a high appreciation for American railroad organizations and methods, but with an opinion of Americans in general which was not very flattering. This was doubtless because of their being so intently interested in their investigations that they did not have an opportunity of meeting on a social basis Americans of their own class, so far as education and social standards are concerned. It is extremely desirable that these men return to Japan with a better knowledge and appreciation of what real American life is like, and railroad officers with whom they come in contact should assist in every way that they can to give them a bigger and broader insight into our American life.

Considerable delay and much unnecessary expenditure are caused by the rough handling of freight cars at terminals.

### Damage to Equipment at Terminals

Anywhere from \$100,000 to \$150,000 a week is expended in repairing cars damaged in yards. This not only overburdens the repair forces, but it causes material delay to shipments, because these damaged cars must be segregated and either their loads transferred or delayed until the repairs are made. The cause of this is largely due to the careless handling of the cars in the classification yards by the yardmen. The large amount of freight that is being handled undoubtedly drives the yard forces pretty hard and an attempt to speed up the switching operations has resulted in recklessness. Then again, the employment of new and inexperienced yardmen who have not been properly trained is another cause for this excessive damage. The matter is assuming such large proportions that something must be done to correct it. The old adage that "haste makes waste" applies particularly to this problem. There is need for concerted action by both the transportation and mechanical forces. The hand brakes must be kept in good operative condition, sufficient switchmen must be at hand in the yards properly to handle the cars switched, and the speed of switching must not be so great that the speed of the cars cannot be properly controlled by the hand brakes.

## Railroad Commissioners on Safety

THE REPORT OF THE COMMITTEE on safety, briefly noticed last week in our report of the Washington convention of the National Association of Railroad Commissioners, is an interesting document of four pages; but the interest is all in the diagnosis. The description of the difficulties is mostly very good; but the methods of cure are as costly as ever. And it is because of the cost, in brains, education and money, that well-known remedies for dangerous appliances and dangerous practices are not more generally adopted. It would probably make for progress if this aspect of the situation were more frankly faced by all concerned.

The first subject dealt with is the enforcement of the laws requiring safe couplings, air brakes and other freight-car (and engine) appliances. The Interstate Commerce Commission has for many years been prosecuting the railroads in the courts for violating these laws, and over a million dollars has been collected in penalties. Now, the director general has instituted a change. He sees no sense in going into the criminal courts to transfer money from the government's railroad pocket to one of its other pockets, and so he proposes to enforce compliance with these laws by imposing punishment on persons who commit "wilful and inexcusable violations" of them. Mr. McChord's committee cannot find that as yet Mr. McAdoo has accomplished any marked improvement in practice, and seems to doubt whether fear of punishment will prove an "entirely successful" deterrent. Whether the "persons" to be punished include officers and inspectors who overlook or wink at unsafe practices, as well as the trainmen who are directly responsible for them; whether the Administration has officers possessing the necessary grit to punish brotherhood enginemen and brakemen when they carelessly smash couplers and draft gear; and whether "inexcusable" violations of law are to be punished (as they should be) when not classed by the courts as "wilful" are points on which this report throws no light.

The enormous increase in the number of trainmen and telegraphers working a longer day than is prescribed by the law, are prominent points in the report. It is not very strange to find no remedy proposed, for the problem is a perplexing one.

When jobs are plenty, as at present, many employees who otherwise are satisfactory workmen will throw up their jobs and go to another road if censured. This, of course, breaks down all discipline, and the superintendent who seeks to accomplish increased safety in train operation finds himself completely baffled. This is one of the cold truths to be found in this report (expressed, however, in restrained language). Another picture, pretty true to life, is the following:

"Under private management, many railroad companies needed no spur to induce them to adopt safety devices and improve operating practices: every practicable safeguard of merit was used by them in the operation of their roads. The managements of many other railroads, however, were extremely backward in these matters; sometimes, it is true, because of lack of means, but often because of extreme conservatism, and again because of being willing to let well enough alone. Practically all the recommendations that have been made for improved safety conditions have had in view merely the compulsory adoption by all railroads of the improved practices and safeguards used by the most progressive and advanced railroads."

The report goes on to recommend the block system, calling attention to the unanswerable arguments in its favor which have been presented many times in the past, and emphasizing the finding in the case of the recent terrible collision near Nashville, Tenn., that *all necessary appliances and facilities for blocking trains were already available* and might have been used. The automatic train-stop is favorably mentioned, but is rightly placed after, not before, the plea for the general introduction of the block system. The connivance on the part of officers, at "habitual violation of rules for the ostensible purpose of avoiding delay to trains" is properly characterized as a great evil.

The general effect of this report should be to impress on the public—what already forces itself on the minds of railroad officers every day—that many of the problems of the operating department can be solved only by very slow processes. If steel rails are so scarce that the roadmaster cannot make reasonable renewals and cannot warrant the safety of his track for high speed the only remedy is low speed. The application of this remedy would stir up all sorts of remonstrances, criticisms and wailings; but there is no other way out, except by the sacrifice of safety. The problem of incompetent, inefficient or unruly help, in its last analysis, means that when a competent telegraph or telephone operator cannot be found, an office may have to be closed. When competent trainmen are not to be had, the question of sending out men who are only partially competent must not be settled with the eyes shut; *the trains must not be started out*. These are radical suggestions, and Mr. McChord and his fellow committee-men did not go so far as to put them on paper; but if we remain content with partial remedies we can expect only partial results. With how much earnestness do we desire complete safety?

## The Problem of Reconstruction

THE SUDDEN CESSATION of hostilities and the prospects of an early peace will develop a number of serious problems which must be dealt with with great tact if this country is to come through the reconstruction period successfully. That it must do this is important for many reasons, not the least of which is that we must demonstrate the effectiveness of the fundamental principles underlying our democracy and be an example to those countries that are about to form republican governments. That the importance of these reconstruction problems is generally recognized is indicated by the many conferences and meetings which are shortly to be held to consider them. For instance, a War Emergency and Reconstruction Conference will be held under the direction of the Chamber of Commerce of the United States of America at Atlantic City on December 4, 5 and 6; the reconstruction committee of the National Civic Federation will meet in New York on December 2; a conference of labor men will be held in Albany early in January to formulate a reconstruction program.

For three years the industries of this country have been working to the limit of their capacity, and gradually, as the shortage of labor and material have become more pronounced, non-essential industries have been curtailed and efforts have been concentrated on manufacturing and shipping abroad munitions and other equipment for the carrying on of the war. This great energy must now be suddenly diverted into other channels and we must readjust ourselves to normal conditions. Not a few are prophesying a period of industrial unrest and internal dissension. This must be avoided. The United States entered the war with the very highest of ideals and it has made great sacrifices because of these ideals, and with a view to insuring a square deal to those peoples who have been oppressed and have suffered under autocratic forms of government. Can we uphold these ideals at the peace table if at the same time there is industrial dissension throughout the United States?

The interests of labor and capital are interdependent and the only real solution of the problem is for each side to look at it in a broad way and to make an earnest attempt to recognize the viewpoint of the opposite side. The whole situation is based on certain economic principles, and if capital refuses to give a square deal to labor, or if labor insists upon unreasonably high wages which will make it necessary to close down our industries and go through a



period of industrial paralysis, both sides will suffer greatly and needlessly. If the two interests can get together in a big way they will both profit by it, although each side may seem to lose temporarily because of compromises which will have to be made. On the other hand, the country will be assured a period of prosperity, and an un-Christian conflict, which is contrary to the very principles for which our boys laid down their lives on the other side and for which the entire nation has made sacrifices, will be avoided. There will be no place in the larger program for the employer who asserts that he will be glad when hard times come in order that labor may be taught a good lesson, or for the equally narrow and bigoted labor leader who cannot find terms strong enough with which to abuse the employer and question his motives. The unreasonable elements on both sides of the question form an exceedingly small proportion of the total population and sooner or later an enlightened public will surely relegate them to the scrap heap.

### Don't Stifle the Morale

UP-TO-DATE METHODS and standard practices are important to the success of any enterprise; the right form of organization and well-defined channels of authority are even more important, but the really vital factor in the success of any organization is the development of a high morale, thus encouraging each individual to put forth his very best effort. Railway red tape in many instances has tended to stunt the healthy growth of such a spirit. Will government control, with its bureaucratic methods, superimposed upon this still further stifle and possibly largely destroy that morale which is so necessary if the railroads are to serve the public acceptably.

Possibly no one factor has been so important in encouraging railroad officers to improve their various departments as the formation of the different railway associations or organizations. Practically every department of the railroad is represented by one of these organizations and here the officers or foremen met in convention at regular intervals to consider important problems, exchange experiences and develop the best practices and standards.

There is a possibility of the Railroad Administration ordering the various associations to amalgamate. It must be admitted that certain changes can be made with excellent results, but care should be taken to preserve the individuality of these organizations and to encourage a hearty and general participation in their direction on the part of all of the members. For instance, it would be a serious mistake to form one large unwieldy organization which would be divided into a number of sections and in which the work would be done largely by committees without holding meetings of the membership generally and at regular intervals.

The forty or fifty important railway associations now in existence have developed normally and gradually to meet the changing conditions in the railroad field. At the beginning of the war they were all in a healthy condition and there is no reason why they should not continue in this condition. They fell short of doing their best work for two reasons. First, the higher executive officers in many cases had little, if any, appreciation of the work of the minor organizations and in many cases have not taken steps to see that their roads were represented at the conventions and that their representatives participated not only in the discussions at the convention, but in the preparation of the reports to the extent that they should. On the other hand, of course, many of the more progressive roads insisted that their men attend the conventions and backed them up in making investigations and securing data for reports or individual papers. More and more, how-

ever, men were being sent to the meetings with instructions to report in writing as to the recommendations that they feel should be made on the basis of facts that are developed at the conventions, and there has been a pronounced improvement in this direction.

The second reason why the work of these organizations is not as effective as it should be is that in many cases the work of the association ends with the education and inspiration that it gives to its individual members, or which is conveyed to the railroads in general through the railway press. Its recommendations are placed on record, but cannot be enforced. The *Railway Age*\* (See Footnote) has consistently recommended, and notably in an editorial in its issue of May 4, 1917, page 926, that there should be a closer co-operation between the different organizations, so that in the mechanical department, for instance, the various minor organizations can pass their recommendations up to a major mechanical department association, which will finally pass upon them and authorize them either as recommended practices or standards, whichever may be most desirable.

It would be comparatively easy, without even changing the names of the present organizations or their present plans of meetings to tie them up in such a way that they could report to the American Railway Association and could work under its general direction. The American Railway Association would undoubtedly prefer to have several major organizations under its immediate direction rather than the larger number of minor associations. The general mechanical department organization, for instance, could act as a clearing house for all of the mechanical department organizations, approving of their recommendations and forwarding them to the higher organization. A flexible organization of this kind would preserve the identity of the various organizations and encourage them and would tend to uplift rather than to destroy the morale throughout the railroad field. It may not be out of place at this time to repeat the suggestions that were made by the *Railway Age* in an editorial in its issue of May 24, 1918, page 1263, and which are as follows:

"It would seem that the adoption of some such plan as the following would be sufficient at present: First, make the various technical associations divisions of the American Railway Association, but let them continue to meet separately and have such discussions and adopt such recommendations as to privilege in their respective fields as they consider wise; second, give the American Railway Association authority to co-ordinate the work of the various associations so that harmony in their recommendations will be brought about where they touch upon the same general subject; as, for example, on the relation of wheel loads and strength of track, and refer back to the subsidiary organizations for further consideration recommendations of which it does not approve; and, third, vest in the American Railway Association the authority and duty of making to the director general recommendations regarding the practice which it may be deemed desirable to have enforced upon all railways."

The important thing is to guard against loss of interest and restrictions of action which will necessarily follow the amalgamation of the organizations and which will far outweigh the disadvantages which now exist, and which can be largely overcome by a co-ordination of activities such as suggested above.

\*Among the more important editorials which the *Railway Age* has published during the past two years on the co-ordination of the work of the various railway associations are the following:

Closer Co-operation for Mechanical Department Association. May 4, 1917, page 926.

Amalgamation of Railway Associations, May 24, 1918, page 1263.

Is the Amalgamation of Railway Associations Advisable? May 31, 1918, page 1316.

Proposed Amalgamation of Railway Association, August 2, 1918, page 199.





# United States Standard Refrigerator Car

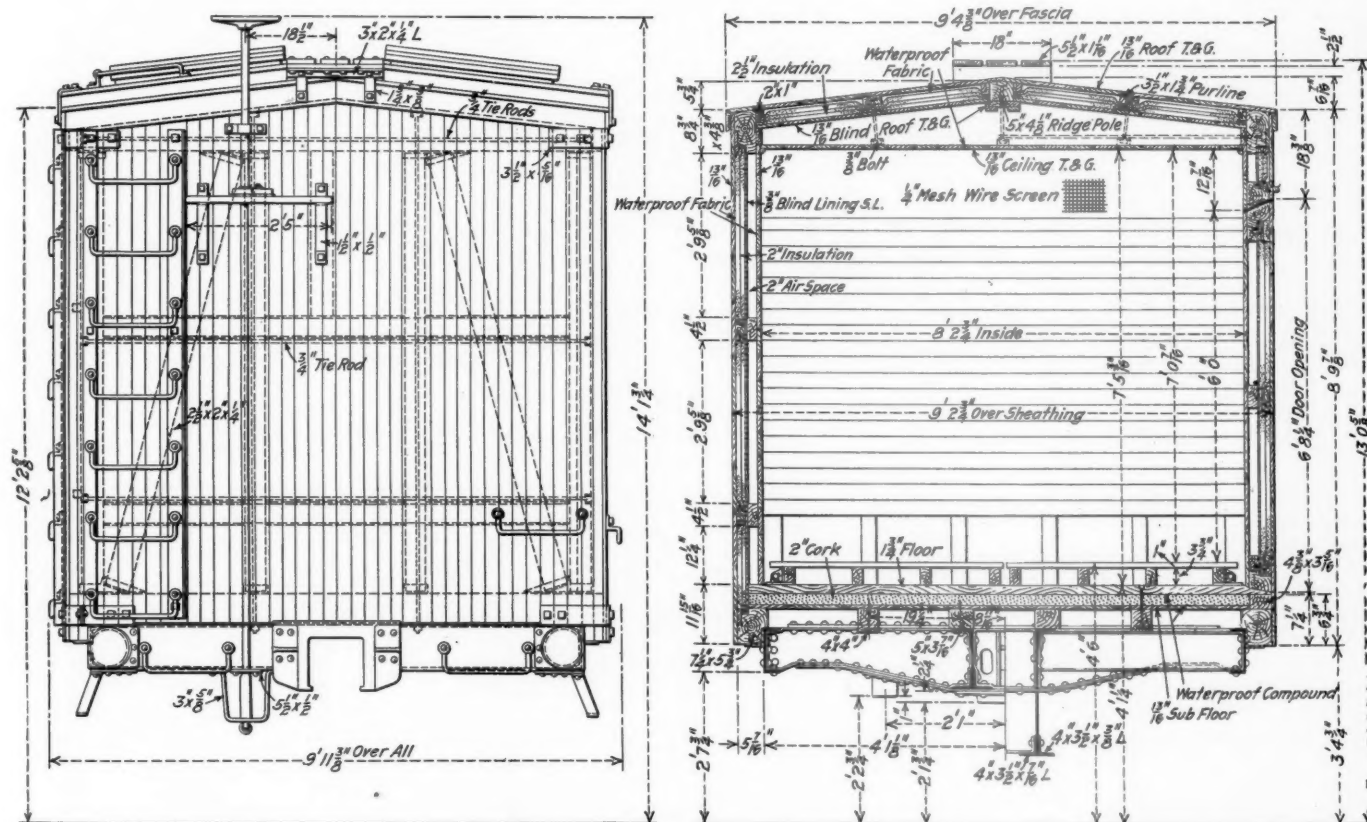
All-steel Underframe, Basket Type Ice Bunkers, Solid Insulated Bulkheads; 30-tons Capacity

IN CONNECTION with the Mechanical Department's Circular No. 7 covering repairs to refrigerator cars, the United States Railroad Administration has issued specification No. 1,386 covering a 30-ton steel underframe refrigerator car body, which has ice compartments at each end with stationary insulated bulkheads and ice receptacles of the basket type. These cars are made to conform as nearly as possible to other standard type cars. Many of the parts of the air brake rigging, the body center plate, body side bearing, side bearing and truck clearances, draft gear details, limiting dimensions for couplers and several other minor details are the same as those used in the other standard cars constructed for the Railroad Administration. The lumber

gears may be used. The cars have the following general dimensions:

Length outside, between end linings.....	39 ft. 11 3/4 in.
Length inside between bulkheads.....	33 ft. 2 3/4 in.
Width inside.....	8 ft. 2 3/4 in.
Height inside, floor to ceiling.....	7 ft. 5 7/8 in.
Height inside from floor grates to ceiling.....	7 ft. 1 1/2 in.
Length over striking plate.....	42 ft. 1 1/2 in.
Width over eaves.....	9 ft. 5 1/8 in.
Width over-all (side ladders).....	9 ft. 10 3/4 in.
Height from rail to top of car at eaves.....	12 ft. 2 3/8 in.
Height from rail to top of brake mast.....	13 ft. 6 3/4 in.
Height from rail to top of running board.....	13 ft. 3 3/8 in.
Distance center to center of trucks.....	31 ft. 1 1/2 in.
Height from rail to center of coupler.....	2 ft. 10 1/2 in.
Height from rail to bottom of center sill.....	2 ft. 4 1/2 in.

The framing of the car is made up of 7 1/4-in. by 5 3/4-in. side sills, mortised to fit the angle on the side sill member

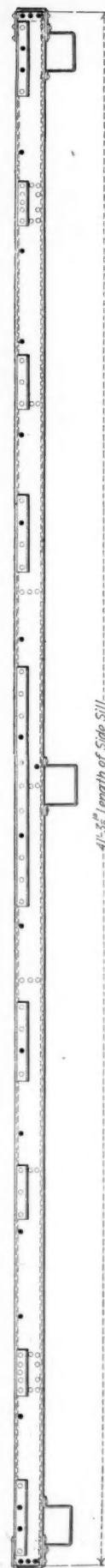
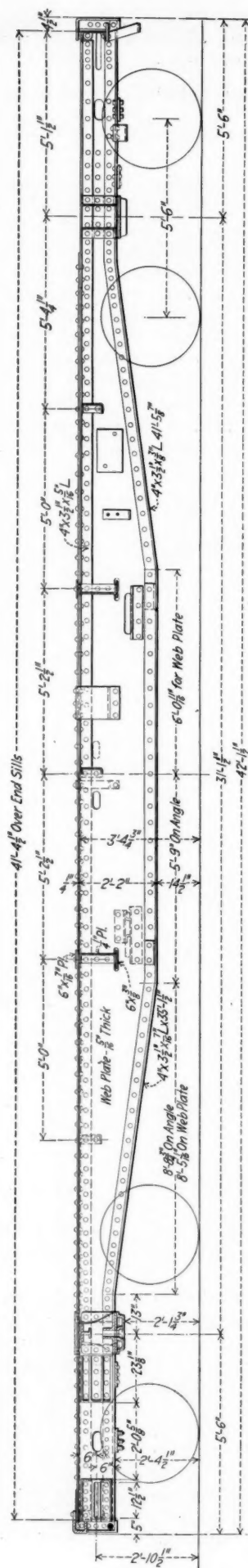
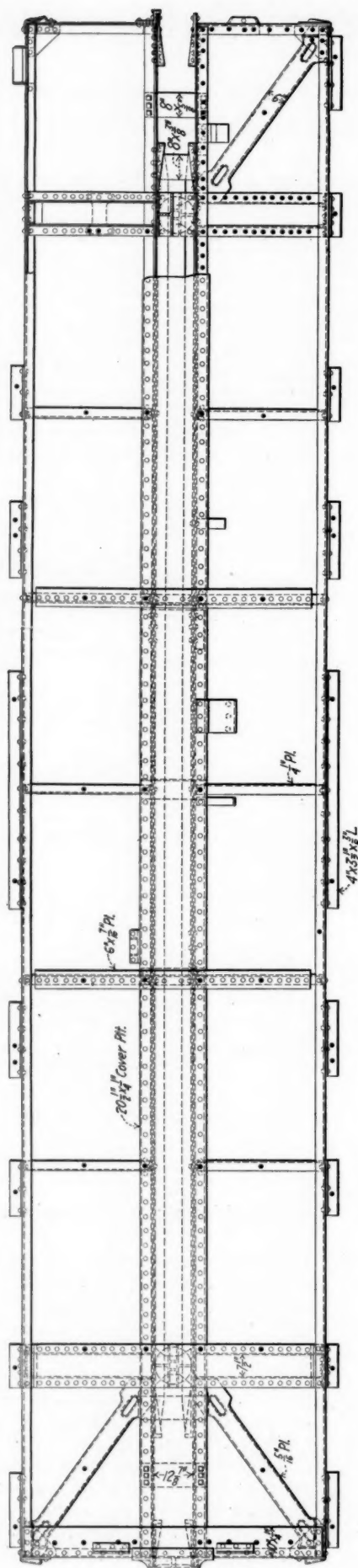
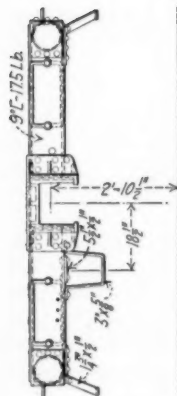
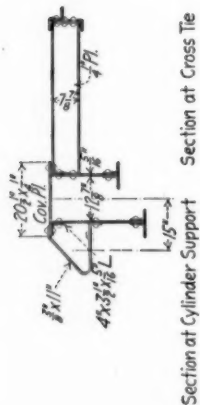
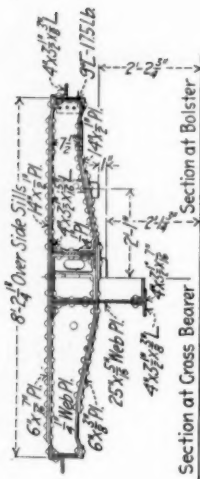


End Elevation and Section of U. S. R. A. Standard Refrigerator Car (Drawing No. 1386)

sections are in accordance with the Master Car Builders' standard practices and the same as used on the standard box cars.

The cars are to be equipped with the Westinghouse KC 10-12 type air brakes, of either Westinghouse or New York Air Brake Company's manufacture, with 25-50 double pressure spring type retaining valve of the Westinghouse Air Brake Company's design. Braking power to be about 60 per cent of the light weight of the car, based on 50 lb. cylinder pressure. The piston travel is to be between 5 in. and 7 in. Friction type draft gear is specified, having a minimum capacity of 150,000 lb. and a maximum travel of 2 3/4 in. The clearance between the coupler horn and striking plate to be 3 in. As in all other freight cars the Chicago, Murray, Sessions type K, Westinghouse or Miner draft

of the underframe. There are 12 intermediate 5-in. by 2-in. side posts and 12 diagonal braces of the same material. There are two belt rails 4 1/2 in. by 2 in., located 2 ft. 1/4 in. and 4 ft. 10 in. above the bottom of the side sill, respectively. The side plate is 8 3/4 in. by 4 3/4 in. There are two intermediate 4-in. by 4-in. end posts and two belt rails 4 1/2 in. by 4 in. The corner posts are 6 1/8 in. by 7 in. The roof framing consists of a ridge pole 5 in. by 4 1/8 in. and two purlins 3 1/2 in. by 1 3/4 in., with 1 3/4-in. carlines having 3/4-in. tie rods located at every other carline. The end plates are 6 1/4 in. by 8 in., gabled out to receive the insulation. The door posts are oak members 13/16 in. by 3 1/4 in. The roof has 13/16-in. roof boards which are covered with a No. 22 gage outside metal roof. The inside and outside sheathing of both the sides and ends is 13/16 in. thick. The



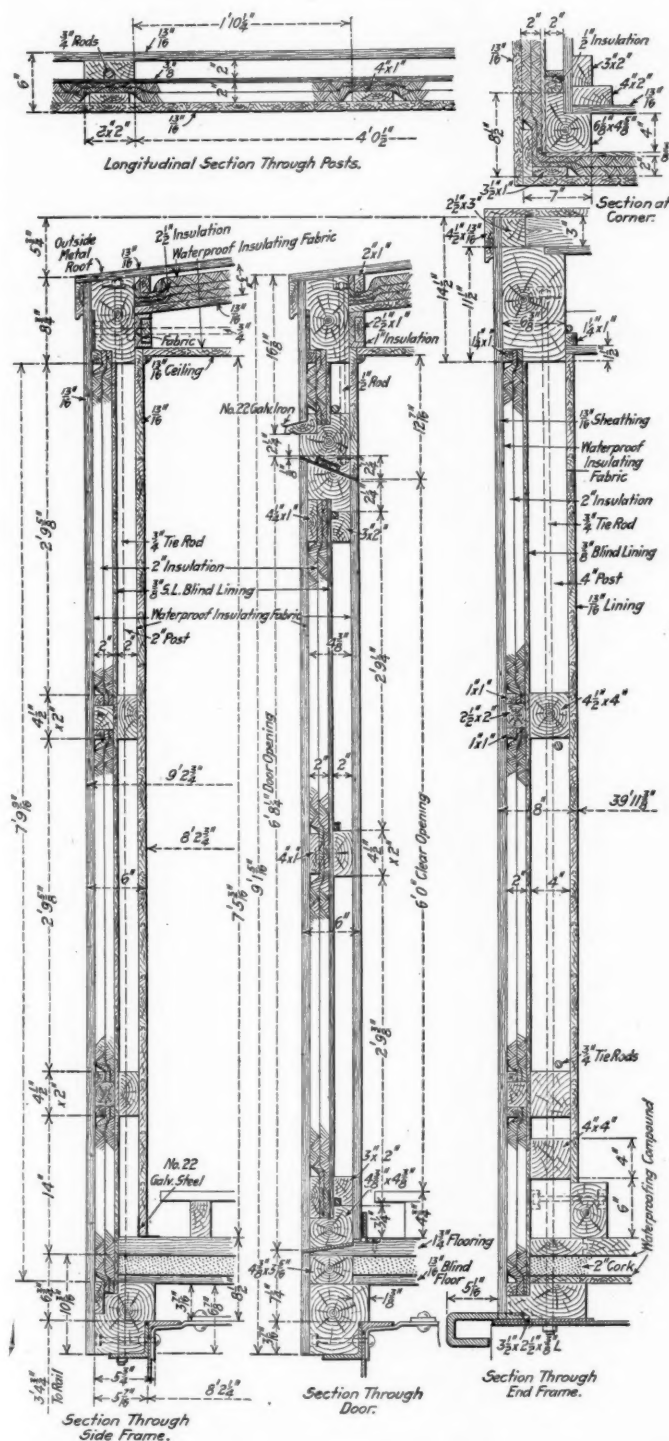
Underframe for U. S. R. A. Standard Refrigerator Car (Drawing No. 1388)



inside of the cars is provided with a floor rack of 1-in. by 4-in. boards fastened to four 3 $\frac{3}{4}$ -in. by 2-in. stringers. The floor racks are hinged at the sides.

#### UNDERFRAME

The underframe center sill is of the fishbelly type, being made up of two 5/16-in. web plates located 12 $\frac{7}{8}$  in. apart,



Standard Refrigerator Car Sections Showing Insulation  
(Drawing No. 1387)

25 in. deep at the center and having at the top 4-in. by 3 $\frac{1}{2}$ -in. by 5/16-in. angles and at the bottom 4-in. by 3 $\frac{1}{2}$ -in. by 3/8-in. angles on the outside and 4-in. by 3 $\frac{1}{2}$ -in. by 7/16-in. angles on the inside of the plate. There is a 20 $\frac{1}{2}$ -in. by 1/4-in. cover plate extending the full length of the car between the end sills. The side sills are 9-in., 17.5-lb. chan-

nels with 4-in. by 3 $\frac{1}{2}$ -in. by 3/8-in. angles riveted to them to support the wooden side sills of the car body. The end sills are channels of the same section as the side sills. The crossbearers are made of 1/4-in. pressings with 6-in. by 7/16-in. top cover plates and 6-in. by 3/8-in. bottom cover plates. The body bolsters are built up of 1/4-in. pressings with a 6-in. by 7/16-in. top cover plate and a 6-in. by 3/8-in. bottom cover plate. The diagonal braces at the corner of the car are made of 5/16-in. plate pressed to channel section.

#### INSULATION

The specifications call for two courses of 1-in. insulation in the sides and ends and three courses with a combined thickness of 2 $\frac{1}{2}$  in. in the roof. The floor insulation is of pure cork board 2 in. thick. An option of hairfelt, Keystone hairfelt, flaxinum and linofelt is provided for the insulation. The side walls of the car consist of an inside sheathing 13/16 in. thick to which is applied on the outside a layer of waterproof insulating fabric. This sheathing is fastened to two belt rails 4 $\frac{1}{2}$  in. by 2 in., a 2-in. air space thus being provided. To the outside of these belt rails is nailed a 3/8-in. shiplap blind lining, on which is applied waterproof insulating fabric, the 2 in. of insulation, another layer of waterproof insulating fabric and the 13/16-in. outside tongued and grooved sheathing. The ends are substantially the same, with the exception of the thickness of the belt rails and air space, which is 4 in. The section through the door is precisely the same as that through the sides. No break is made in the insulation around the corner posts. The waterproof insulating fabric is of No. 350 drill, which is a cotton cloth weighing approximately 3 $\frac{1}{2}$  lb. per 100 sq. ft. and thoroughly saturated with an odorless waterproofing compound, preferably of an asphaltic base of approximately the same consistency of waterproof compound used on insulating paper. It extends continuously from side sill to side plate and from door post to door post around the end of the car.

The flooring is made up of a 13/16-in. blind floor at the bottom, a layer of waterproofing compound on top of this, then a layer of 2-in. cork insulation, another layer of waterproofing compound and a 1 $\frac{3}{4}$ -in. tongued and grooved floor with the joints white leaded. The quantity of waterproofing compound used in each of the two layers is 30 gal., and the specifications for this material require that it must be perfectly waterproof, having a melting point of not less than 175 deg. F.; it must be pliable at zero, highly adhesive when hot, not sticky when cold, and absolutely odorless.

The roof is made up of a 13/16-in. ceiling on which is laid a layer of waterproof insulating fabric. A blind roof 13/16 in. thick supports three layers of insulation, having a total thickness of 2 $\frac{1}{2}$  in., on which is laid a layer of the waterproof insulating fabric. A slight air space is left between this and the roof boards which are 13/16 in. thick. An outside metal roof is to be applied on top of this. A layer of 1/2-in. insulation 4 in. wide is mortised into the side plate at the outside for the full length of the car in order to provide insulation at points where the carline tie rods pass through the side plate. On the outside a 1-in. layer of insulation is applied in the air space between the ceiling and the blind roof, being folded over and held in place by a 2 $\frac{1}{2}$ -in. by 1-in. nailing strip.

#### ICE COMPARTMENTS

An ice compartment is located at each end of the car. They have stationary insulated bulkheads and an ice receptacle of the basket type. The distance from the outside end of the car to the inside face of the bulkhead is 4 ft. 1/4 in., the distance between the bulkheads being 33 ft. 2 $\frac{3}{4}$  in. The bulkhead is made up of two layers of tongued and grooved 13/16-in. boards, with a layer of 1 in. insulation between them, and it is supported by four intermediate 3-in. by

3¾-in. oak posts. The opening at the top of the bulkhead is 14 in., having a No. 20 wire ¼-in. mesh galvanized screen. The opening below the bulkhead is 12 in. The ice basket is a screen made of No. 7 wire with 1¼-in. by 1¼-in. mesh, which is galvanized after weaving. There is a space of 2 in. between the basket and the walls of the ice compartment. The inside dimensions of the ice basket are 2 ft. 9 in. deep by 7 ft. 10 in. wide and 6 ft. 3 3/16 in. high. A 4-in. air space is provided between the wall of the ice box and the end of the car. As in the sides, the end consists of ¾-in. shiplap sheathing with two 1-in. layers of insulation and a 13/16-in. outside sheathing. The ice is supported on 3-in. by 1½-in. oak grates which are carried on six 5-in. by 3-in. wooden members. The sides and the ends of the ice box are covered with No. 24 galvanized iron for the full height of the box. The drip pan is made of No. 12 galvanized steel with the sides and the ends flanged upward.

The ice hatch has an opening 22¼ in. by 2 ft. 4¼ in. The hatch frame is 1¾ in. thick, supported at the ends by suitable cripples and filling blocks on the inside to substantial blocking extending across the full width of the car and at the outside by a filler block between it and the side plate. In addition to this there is a malleable iron frame 5/16 in. thick and of Z-section, which extends around the upper portion of the hatch. The inside of the hatch passage is covered with a flashing of No. 22 galvanized iron. The hatch plug is made up of two layers of 3/16-in. boards with two 1-in. layers of insulation between them. It is attached loosely to the hatch cover in such a manner that it may freely fit the hatch without binding, but yet so that it can be raised with the cover.

None of these cars have been ordered by the Railroad Administration up to the present time.

## Mines Can No Longer Cry Car Shortage

**I**N THE SIX MONTHS ending September 30, the coal mines in Illinois, Indiana and western Kentucky loaded 1,209,223 cars as compared with 1,087,359 in the same period in 1917, according to B. J. Rowe, supervisor of coal traffic for the Railroad Administration in that district. This constitutes an increase of 121,864 cars loaded, or 10 per cent. The mines in this territory are in the unusual position of having produced and shipped more coal during the summer months of 1918 than will probably be produced during the coming winter. The Illinois mines alone shipped 45,000,000 tons of coal in the six months ended September 30, whereas the most liberal estimates do not place the production in the half year just begun at more than 40,000,000. It is not believed that the signing of the armistice and the closing of war industries will reduce the consumption of coal in the districts more than 5 per cent.

Despite this excellent record the press has repeatedly given publicity to complaints on the part of mine operators that their production was being impeded by a shortage of equipment. It is probable, however, that the uniform rules for the rating of coal mines, other than anthracite, which were put into effect by the Car Service Section of the Railroad Administration on September 12, will put a quietus on the fault finding of the mines. According to these regulations the daily capacity of each mine is determined by taking the total coal tonnage shipped during the preceding month, dividing it by the number of hours worked and multiplying the quotient by the number of hours in the recognized work day of the individual mine. The result is termed "the daily rating" of the mine and is the basis on which cars shall be distributed to it during periods of car shortage.

Under former conditions each road had its own method of determining rating and the statistics on the basis of which the ratings were computed were supplied by the mine operators and usually unverified by the carriers. As would naturally be expected, the ratings under that plan were generally liberal. This was particularly true of mines served jointly by two or more railroads. These often had ratings 100 per cent or more in excess of their capacity. As a result, they often received more cars than they could load, thereby tying up equipment which might have been used elsewhere. A joint mine in Illinois with an actual capacity of 200 cars, ordered 399 cars in one day this summer. It received 280 cars from the railroads serving it, but loaded only 196, leaving 84 cars unused. On July 18, 38 joint mines in Illinois received 851 more cars than they were able to use and 379 cars were left over on August 9 at 22 joint mines in the same state.

These instances are typical of the results which obtained before the uniform rules governing the rating of mines and the distribution of coal cars were put into effect. Under these regulations the orders for equipment have been substantially reduced. Previous to October 10, the effective date of the new rules, orders by mines in Illinois and Indiana averaged about 12,000 cars a day, whereas at present they rarely exceed 9,500 cars. The old ratings likewise gave the mines on the Illinois Central approximately 3,200 cars per day although the greatest number of cars ever loaded in the history of the road was 2,105. According to the new ratings these mines are credited with 2,100 cars per day.

It is interesting to note the effect of the new ratings on car supply statistics. On Friday, November 15, the number of cars available for coal loading on all railroads in Illinois was equal to 148 per cent of the total orders for equipment. One road which was always short of cars under the old method of computation, had a supply of equipment equivalent to 255 per cent of the orders received for that day.

These figures are especially significant, as Friday and Saturday formerly showed car shortages more often than the other days of the week. The coal car records for Monday, Tuesday, Wednesday and Thursday of the week ended November 16 were even better, as compared with the orders received, than those for the Friday just noted. On November 11, the supply of coal cars on Illinois railroads equaled 162 per cent of the orders received from the mines. On Tuesday, November 12, the percentage was 179, on Wednesday, 161, and on Thursday, 153.

It is not to be inferred that these favorable percentages are due entirely to the new method of rating coal mines. As a matter of fact, on account of the enormous production this summer, there has been a gradual reduction in the output of the mines this fall. Another factor which has tended to increase the car supply has been the close supervision of car distribution by regional directors. A noteworthy result of their control of the supply of equipment has been the prompt return of empty coal cars to the owning roads. Under former conditions, coal carrying lines often suffered severely from the shortage of equipment because connecting lines failed to route their cars back.

The greatest strength of the new rules governing ratings is the requirement that the records kept by the mine operator be included in a sworn statement. Another important stipulation is that copies of orders for cars by a mine that is joint with any other carrier shall be filed with a designated representative of each road. Such combined requisitions must not exceed the gross daily rating of the mine. These clauses and others included in the new rules have been effective in radically reducing the inflated ratings which were formerly the rule.



# The Coming Industrial Expansion of the World

## New Railroad Construction One of the Economic Factors That Will Play a Dominant Part

A SKETCH OF THE IMPORTANT extensive railroad projects the world over, combined with an expression of belief that after the war conditions will permit of the speedy carrying out or continuance of these projects, is the interesting feature of a report recently issued by the Guaranty Trust Company of New York. The report, which is copyrighted by that company, follows:

With peace an accomplished fact, we are face to face with its problems and with those involved in the readjustments of finance and business from a war to a peace basis. And the most important question confronting our industrial and financial leaders is: What will be the major trend of economic developments?

The best approach to an answer to this question seems to be an interpretation of relevant developments already in process before the war intervened. The provision of essential transportation agencies in the industrial and geographical frontiers of the world indicates that a combination of economic forces was laying the foundations before the war for a period of unusual world-wide industrial expansion. It appears likely that after the brief period of readjustment the world war will be found to have accelerated this movement materially.

### Reasons for Expansion

These pre-war preparations for industrial expansion were the logical outgrowth of conditions in the leading industrial nations. The United States, Japan, and Germany exemplified perhaps most completely the industrial development which characterized the latter years of the nineteenth century; and because of their relative industrial progress these countries, naturally, were looking increasingly for opportunities to expand, either through colonization or the enlargement of foreign trade and investments. And as a further consequence, toward the end of this period, it became necessary also for the surplus capital of other countries, which had contributed to this industrial growth, to seek opportunities in new areas.

This combination of events is a repetition of a familiar experience. Once intensive industrial development is under way it often carries a nation past the point of best distribution of productive factors, with a consequent disturbance of the equilibrium of industrial forces. Not until the point of best adjustment is past are the industrial leaders brought to a realization of the need for readjustment. But always the remedy for relatively over-intensive development lies, not in contraction, but in expansion. Additional supplies of raw materials must be obtained and new markets for finished goods developed.

### Transportation the Basis of Expansion

For such expansion, means of transportation, of course, are indispensable, because any degree of territorial division of labor, and effective occupational division as well, are conditioned upon transportation. For this reason, outstanding progress in material civilization has been associated hitherto with one or another of the conspicuous discoveries in the field of transportation, or else with the utilization of the existing agencies in new fields. The invention of the compass broadened immensely the field of marine navigation; but perhaps its most significant single result came centuries later when, in seeking the coveted sea route to Asia, America

was discovered. Down to the last few centuries, concentrations of population and civilization remained close to water, and only with the application of steam to land transportation was a cheap means of communication found which made possible the really marvelous industrial development of the last three-quarters of a century.

### Pre-War Plans for Development of Frontiers

Because of the unusual pressure in recent years for outlets for surplus capital, many plans were formulated for the development of transportation in various parts of the world. Isolated as they may appear when viewed singly, they are more rightly understood when regarded as so many expressions of a wide-spread desire to share in the industrial progress which comes with the development of new countries—the precursors of another of the world's recurrent periods of notable industrial expansion.

Among the undertakings of special significance in this connection, first place should be given to the Panama Canal—opened in the first month of the war—because it, more than any other single undertaking in recent years, is destined to affect the trade and industry of the entire world. Closely associated with this enterprise is the construction of the Alaskan Railway, now being completed and making available our only important supply of coal on the Pacific Coast.

The Canadian railway building program included the completion of the second and third trans-continental lines whose western extensions were to open up considerable virgin territory in the Canadian West and Northwest.

Australia, with an area equal to that of the continental United States, and with practically all its population of less than 5,000,000 concentrated along the coast, proposed the construction of two intersecting trans-continental railroads.

In Africa, the rail sections of the Cape-to-Cairo rail-water route were under construction, as were railroads reaching from the east and the west coasts into the heart of the continent. Among the many projected roads was a northern trans-continental between Algiers and Cairo through the one-time granary of the Roman world.

Railroads traversing Persia and Afghanistan were planned which would give direct rail communication between Europe and India, and the Bagdad road was to be extended toward the Persian Gulf.

China, after having remained in an isolated position without adequate means of communication between the extended parts of the country, was adopting the modern means of land communication. A beginning was made in the construction of a number of relatively short lines and a net-work of trunk lines was planned, of which the more important were those to connect Chengtu, the capital of the largest and possibly the richest of the interior Chinese provinces, with the coast; a road across Mongolia to the Trans-Siberian, and another westward through the heart of China eventually to connect with the railroads in Russian Tu.kestan.

The construction of the Trans-Siberian line, although mainly for political purposes, had opened the way for the development of the resources of that region. In 1913, the Russian Minister of the Interior formulated a program for the building of 50,000 miles in the following decade, which was unique in its scope and co-ordination of its various



projects. The proposed lines in Siberia included the completion of the Amur River link of the Trans-Siberian, a trunk line across Southern and Western Siberia paralleling the Trans-Siberian, and numerous feeders for each of these trunk lines.

Brazil has one of the largest undeveloped areas of any of the countries of the world. Like the Australian commonwealth, practically the whole of its scant population is concentrated near the shores, and for the most part railroad construction has been intended to serve these isolated communities. Only in recent years have any efforts been made to connect these various settlements by rail lines. Extensive railroad construction schemes were under way in Brazil which pointed, not only to the linking up of these isolated settlements, but to the development of the great interior of the country and to furthering the diversification of industries so characteristic of Brazil in recent years. The Bolivian government was planning the extension of the Bolivian railways to the northeast and the east of the Andes to open up the great expanse of territory in that region. Some of these lines were to be connected with the projected lines of Argentina to the south and with proposed trans-continental lines reaching from the eastern coast of Brazil to Bolivia. In fact, a number of railroad projects under way pointed to the opening up of the great interior of the whole South American continent.

It can scarcely be thought that the coincidence in time of these various undertakings for the development of the frontier regions was wholly, or even mainly, fortuitous. The timing of Germany's aggression in the interest of her contemplated short cut to industrial and political pre-eminence among the nations may well have been due to a realization that the peaceful industrial progress promised by this combination of effort in the widely scattered lands, and in which the neighboring peoples would share, was about to make forever impossible the Kaiser's domination of the world.

#### Railroad Building During the War

Actual construction of railroads has been suspended in some cases, and in others retarded, but in not a few instances it has been hastened by the war. Doubtless Brazil has experienced a more nearly complete suspension of railroad building than any of the other countries mentioned, but preparation is being made for prompt resumption of construction, with the return of more normal conditions.

The Chinese building program also has been affected unfavorably by the war. Nevertheless, important additions have been made, aggregating approximately 800 miles during the war. On the lines complete in 1917, two are of especial significance. One of these, a 140-mile section of the Canton-Hankow line, is a link in the route which will soon unite South China and Peking. The other is a 60-mile feeder of the Trans-Siberian Railway in Manchuria. Early in this year a line was extended from South Manchuria into Mongolia, the first railroad to penetrate this territory. Financial arrangements have recently been made for the early construction of a line across Southern Manchuria and for another connecting the Peking-Hankow and Tientsin-Pukow lines.

Construction in Siberia has proceeded rapidly. The completion in 1915 of the Amur River division of the Trans-Siberian in the East, together with the extension in 1913 of the Ekaterinburg-Tiumen line to Omsk in the West, has given virtually a double track from European Russia to Vladivostock. Several of the new lines projected in 1913 are now in operation. Of these, the most extensive is the Altai Railway, 510 miles in length and connecting the Trans-Siberian with the rich agricultural section to the south of its intersection with the Ob River. Farther west the Kulundin Railway, extending 200 miles south from the Siberian trunk line, was completed in 1916. Another feeder

for the trunk line, connecting it with the coal and iron fields in the upper Tom River Valley, is in operation, 147 miles having been completed. Five short lines connecting the Trans-Siberian with the Amur River have also been constructed.

The notable achievement in Africa has been the continuation of the southern rail link in the Cape-to-Cairo route. Within recent weeks this line was completed to Bukama on the navigable Congo, 2,600 miles from Capetown. A projected 550-mile road between the Congo and Lake Albert would complete this trans-continental route. The railway in German East Africa, was extended to Lake Tanganyika on the eve of the war, and there is now, with the road's western connections, a rail-water line across the center of the continent. The railroad from Lobito Bay has been extended eastward to Katanga, a rich mineral region of the Belgian Congo, and, with the road already reaching the Indian Ocean at Beira, gives a second east and west trans-continental line. A permanent standard gage railroad was laid by the British Expeditionary Forces from Egypt into Palestine. Military considerations have prevented publicity concerning other construction in the Near East but there are evidences that considerable mileage has been built.

Despite the magnitude of the Australian contribution to the Allied military and naval forces, the east and west trans-continental railway, begun in 1912, was completed in 1917. In all, more than 3,500 miles of track have been built in the Commonwealth in the years 1915-17. One-third of the mileage necessary to complete the north and south trans-continental is now in operation.

In Canada, the work of providing two trans-continental railroads has been completed; feeders are being added, and a line from La Pas to Hudson Bay is under construction. From 1912 to 1916 more than 10,000 miles of track were put in operation, nearly 7,000 of which were added in the first two years of the war.

#### Post-War Outlook

The total of new railway mileage constructed during the war is doubtless less than would have been built had peace continued. Moreover, the need for new transportation lines will be more urgent now than before the war. Demand for foodstuffs and raw materials of manufacture will give extraordinary stimulus to the settlement and exploitation of the frontier regions. Meanwhile, the steel producing capacity of the world has been increased, and this, together with the new shipbuilding facilities, will make possible both the speedy prosecution of the railway building programs and the provision of merchant ships. The increased productive equipment and improvements in industrial processes incident to the war will tend to lighten the task of readjusting industry to a peace basis.

The mingling on the battlefields of men from distant lands is making for mutual understanding, and the hard conditions of life to which the soldiers are exposed in the trenches are fitting many thousands of them for the peculiar tasks of pioneering. One effect of the war will be a tendency to break down the racial barriers that have impeded the movement of people between countries, and also, in some instances, the economic barriers.

It is fortunate that in recent years the achievements of sanitary engineering in the Panama Canal Zone, Havana, British Guiana and elsewhere have proved that practically the whole of the tropical countries can be made healthful for the white race. And besides, both in South America and in Africa, altitude largely neutralizes latitude, giving climatic conditions comparable to those in the Temperate Zone. The development of the internal combustion engine and its application to agricultural machinery also will undoubtedly facilitate the development of these regions.

It would appear, then, that economic forces of world-wide scope were laying the bases at the outbreak of the war for industrial expansion and that in a general way the main arteries of communication have been constructed, or are in process of construction, to open up the world's undeveloped areas. During the further extension of these arteries it is not to be expected that a large immediate expansion of the world's business will result. It takes some time after transportation lines are laid before regions are developed to such an extent as to be felt appreciably in the world's business.

But the war has increased the industrial capacity of the belligerent nations and quickened the spirit of adventure in

man, as well as his resourcefulness and inventiveness. In other words, it has created conditions which will induce men to get out into new regions. Therefore, we may expect a rather earlier development of the hinterlands of the world than would normally have come.

Our financial and industrial leaders are now confronted with the problems incident to the readjustment of industry to a peace basis. The difficulties of the present task will be lightened and the strength of our industrial fabric increased if our leaders keep in mind the long-term development of world enterprise, which promises a period of almost unparalleled opportunities for the expansion of business.

## Conservation of Fuel on the Railroads

Prominent Railway and Fuel Men Present Interesting Papers  
Before the New York Railroad Club

**A**T THE NOVEMBER MEETING of the New York Railroad Club, fuel economy was discussed by Eugene McAuliffe, manager of the Fuel Conservation Section of the Railroad Administration; E. J. Pearson, federal manager of the New York, New Haven & Hartford; B. R. Pollock, federal manager of the Boston & Maine; D. R. MacBain, superintendent of motive power of the New York Central Lines West, and Robert Collett and H. C. Woodbridge, of the Fuel Conservation Section. Abstracts of these papers follow:

### Railway Fuel and Fuel Conservation

By Eugene McAuliffe

For two years our people have enjoyed the stimulus of a great patriotism which alone made it possible to change a peace loving people into a great militant nation; a nation whose railways, already inadequate to meet the ever-growing demands of a great people, were suddenly confronted with the problem of moving and countermoving a great army, and of gathering from forest, furnace and mill the material necessary, not alone to house, equip and train these millions of men, thousands of whom came from the railroad ranks, but to construct docks and warehouses in our own country and abroad, together with the material necessary to the furtherance of the greatest shipbuilding program ever conceived. In addition to this great work, regiments of American railroad engineers have built and equipped in France hundreds of miles of railroad, from material all originating in the United States.

From this brilliant page in the history of American railroad achievement I will only refer to the movement of 3,810,693 officers and enlisted men from January 1 to October 31, inclusive, of this year, superimposed on the greatest increase in civilian travel ever experienced, and an increase in bituminous coal loaded for the five months ending October 31, as compared with the same period in 1917, of 596,282 cars.

The successful conclusion of this greatest of tasks made victory possible, and when you are asked to recall the fuel problems of last winter it is but for the purpose of again impressing on you that coal and oil are basic and fundamental commodities that not alone deserve, but command, our best thought. Neither will I attempt to touch on the recent overwhelming victory which fell to the Allied powers, except to say, that where in the past the necessities of war impelled us to great economies, the necessities of peace now call for even greater vision and effort on the part of those who are administering the Fuel Conservation Section, one of the greatest of the many arms of our government.

Somehow in the past the railway fuel job has never been measured up rightly on many railroads, and looking for the cause, I can only attribute it to the fact that in the days of the wood burner locomotive, the theory was current that as the locomotives burned the fuel the fuel problem rested with the department which handled the locomotives, and perforce all responsibility rested with the master mechanic and the engine crew. I cannot fancy into what proportions the fuel bill would grow if it were not guarded by the efforts of the mechanical department and the enginemen, but I have been impressed for years with the fact that the problem was one large enough to become the special charge of the general manager. In fact, the general character of the general manager's duties fit him alone to handle the fuel problem, including purchase, inspection, distribution, and economical consumption.

The intelligent purchase of the fuel in the quantities required by the railroads represents a work that can not be handled as ordinary material is purchased. Buying coal is like buying real estate; you must acquaint yourself with the field and each particular producing property. Of the money paid for coal under normal competitive conditions, perhaps 75 per cent goes for labor, and it is well to see just how the labor is performed. Any specifications furnished in advance represent at best post mortem results; any standard of real efficiency or stated maximum ash content is hard of enforcement because of the extreme difficulty of correctly sampling and determining results.

In the majority of cases proximity of location determines the field purchased from, and to get results the man who purchases coal should have personal knowledge of every opening from which he buys and must maintain, through competent field inspectors, a constant touch with each mine. I long ago learned that a competent, honest and broadminded railroad coal inspector was the best friend the producer could have, and while the educational period is often productive of some sorrows and disappointments, the operators and mine employees soon learn to appreciate the help he gives. The wisdom of such an organization was well proved last winter in the Middle West. But limited decline in the grade of coal as compared with the pre-war period was suffered by roads following this plan of organization; while in other districts where coal is largely bought through conference and by correspondence, the decline began early.

Economy in consumption involves the combined and harmonious effort of every branch of the operating department. In pressing economy in the use of fuel on operating men I have never felt any pangs of conscience for the reason that, unlike mistaken economy in maintenance of rolling stock



and the permanent way, no disastrous result can possibly follow. When the engine crews save fuel a collateral result frequently exceeding the value of the fuel saved is shown in decreased wage, overtime, maintenance, and loss and damage charges. To save fuel the locomotive must be handled and fired skillfully, and the established rating must be maintained, because it is the rating that largely determines the earning capacity of the machine, which is, after all, but a moving factory for the creation of transportation. Prompt movement, with avoidance of delays at terminals and enroute, means decreased wage and overtime bills, and congested yards contribute heavily to freight claim losses.

If the men who are now attempting to improve train movement, including those engaged in the maintenance of the locomotives, cars, and air brakes; those who maintain the permanent way; those who look after the shop steam plants; the water service; the men who control the work of the terminals; the dispatchers who guide the trains over the division; if all of this splendid army of men could be induced to think in terms of fuel, no other comparison of results obtained would be necessary in so far as cost of service was concerned, because when you show a good fuel performance you can be assured that everything else in the operating line is receiving attention.

Many roads employ unorganized, secondary supervising forces, men whose duties are frequently undefined. The frequent changes made in the personnel and duties of this force bears evidence that in many cases it is not working satisfactorily. To get the unification of effort necessary to the conservation of fuel and to secure the many collateral betterments of operation I have mentioned, I would urge the consolidation of this force, including traveling engineers and assistants, instructors, firemen, smoke inspectors, and men in allied work, under one head, who in turn should report to the chief operating officer. The function of this staff organization should be the conservation of fuel in the broadest sense. To properly supervise engine crews, there should be one man of the qualifications of a thoroughly competent traveling engineer for each 50 to 75 locomotives, the lesser number applicable where the heavier types are used. In addition, a sufficient number of firemen instructors should be employed to give each new fireman a proper start in his arduous work, any spare time to be used in training fire cleaning forces at terminals, where much work can be done.

On many roads the plans I have outlined will require few additions to the supervision pay roll; on the whole I am suggesting no more than the making, out of a scattered and sometimes conflicting force, of a fully co-ordinated unit that will assist in welding the purchasing, mechanical, transportation and maintenance divisions of the operating department into a fine working whole that will keep down unit transportation costs and make for better service.

#### Address by D. R. MacBain

The thoroughness with which the matter of fuel economy is practiced is the chief requisite for success. Every person on the entire railroad must have interest in the work and contribute to the end of fuel economy. The thoroughness with which fuel economy is practiced must extend from the president down to the lowest man in the ranks. Locomotives should not be overloaded, nor should they be underloaded, but they should carry full tonnage, and those who send the locomotives out on their trips should have sufficient authority to regulate the tonnage and should know what the full tonnage is for the prevailing conditions.

There is nothing more important in good locomotive performance than correct front end conditions. The draft must be regulated to meet the average conditions of fuel and of firemen. The nozzle must not be too large and interfere

with the proper steaming of the engine. A poorly maintained and designed front end means wasted fuel. Standard arrangements should be effected. They should not be altered without the authority of responsible men in the mechanical department. Likewise the running gear of the locomotive must be properly maintained and particularly the driving box, the improper maintenance of which causes poor steam distribution with an accompanying waste of fuel. Both piston and valve packing should be carefully maintained.

A very important factor in the economical use of fuel on a locomotive is that of supervision and education. New firemen are not being trained as they should. Too often they are sent out indiscriminately with any train crew that happens along. The best enginemen should be picked out to train the new men and to stay with them until they are capable of performing the work properly. The new men should not only be taught the fundamental principles of firing, but should have the reasons for the methods carefully explained to them. It would be wise to maintain a permanent staff of instructors. The engineers need as much tutoring as the firemen. There haven't been enough traveling engineers properly to teach the enginemen. Ninety per cent of all men are always glad to get new ideas and learn, and the effectiveness and efficiency of the service depends upon the instruction to the engine crew. These supervisors or instructors should be relieved of all work except that which pertains to the education of the engine crew in handling the locomotive.

#### The Responsibility of General Officers for Fuel Economy

By E. J. Pearson

What may be termed a deficiency in railroad management is that of at times permitting matters not directly pressing to proceed along the lines of least resistance. The question of fuel economy has suffered too often on this account. While we hope the war is over, nevertheless there is a period ahead during which the very best effort of every railroad officer is necessary towards increasing the success of federal operation. Our problem today to a still greater extent in handling the railroads under our charge is, first, that of service, and second, efficient and economical operation which will result in the railroads paying their way. We have no magic way of securing funds except from revenues and from savings. Fuel is the most important item for attention.

The Railroad Administration has been liberal in granting sums for putting power in a generally better condition than formerly. This work has been directed by Mr. McManamy. His previous broad and extensive knowledge of the general condition of power on American railroads has enabled him to take hold of this problem in a surprising manner. He has given directions, established requirements and afforded assistance which has been an object lesson to many of us. His effective work is responsible largely for the much better condition of power as we approach this coming winter. I am sure it will enable us not only to meet the requirements of transportation, but to support the demand for fuel economy in a manner not heretofore possible.

The question that now confronts us is—What further can we do? The important step is that of securing interest and this is a matter that means commencing at the top. There are various means of accomplishing this. Ten years or more ago I recall an arrangement on one of the important roads by which the dispatcher's train sheet carried the fuel record of each train. As a result abnormal usage was immediately brought to the notice of those responsible. Performance on that road was much better than on its neighbors'. Competition between roads and between the enginemen on the



same road in the matter of fuel economy has produced good results.

At the present time incentive in the matter of good service and of efficient operation, which also means economy, is originating at the top. Such essentially is the policy of the director general and the men directly under him. Valuable information for our guidance is being furnished. Statistical information for all lines is in preparation. This will afford a basis of comparison which will be gratifying to those roads securing the most favorable results. It will encourage them to do still better and it will certainly be a prod to those which are less successful.

If you will carefully analyze the information, the suggestions and the requirements that have been given us by the fuel department you will find nothing therein which is other than in line with the details of requirements for good railroading. It is surprising that many of the points must be repeatedly brought up for attention. As to a large extent these are advisory, it becomes our duty to establish our working methods on such a basis that orders are not necessary because of arbitrary authority, but instead that they are accepted and complied with by all concerned because their merit is obviously apparent to those whose duty it is to carry them out. If you will study the information issued by the Fuel Department on this basis, you will realize, I believe, more fully than ever, that the success in achieving the very large measure of economy that is possible and that it is up to us to secure, will depend on influence from the top, on our leadership, on our support of the policies of the Fuel Section of the administration. The result will be better, more efficient and less expensive railroading, satisfactory to the administration and creditable to the several departments and large number of officers and men through whose co-operating endeavors only, can such success become realized and which it is our duty to secure.

## Fuel Economy in New England

By B. R. Pollock

In ordinary times 60 per cent of the fuel consumed in New England is transported by water and discharged from large and small vessels as well as barges, and communities situated near discharging plants are not dependent upon rail transportation to any degree, while cities and towns inland are dependent upon a short haul only; the result is that railroads can employ their energies largely in the handling of other commodities. Because of war activities and the need of vessels for other purposes and for various other reasons over which we had no control, a large number of the coal carrying vessels were withdrawn from carrying coal into New England, making it necessary for railroads to not only absorb the loss due to the withdrawal of these vessels, but to take care of an increase in coal as well as other traffic due to this increase in war activities.

This load thrown onto New England railroads when they were already handling their maximum amount of traffic forced them to adopt extreme measures which under ordinary circumstances they would not do. Passenger train service was curtailed; parlor and dining cars were cut off; passenger stations were closed or partitioned off to reduce the area necessary to heat; old timber and ties were gathered up, portable saws were employed to saw them and stations and heating plants were put on wood rations except during the months of December, January, February and March, exceptions being made at places where water would freeze in pipes. A canvass was made of all power plants and where possible arrangements were made to supply them, either entirely or partly, with wood, and where we could not get wood cut by our own people we employed outsiders who had small plants to saw wood for us, and in some places our

employees said: "You furnish the ties as they come out of the track and we will do the rest."

The public was appealed to to bear with us under the circumstances as it was not a question of how well we could live, but whether we could live at all.

We suffered seriously because of the quality of fuel we were receiving and made up our minds that if we were to give the maximum service we must obtain good fuel. We had a limited number of fuel inspectors, and, because of the large number of points from which we were receiving fuel, decided to place inspectors at junction points where the fuel was received on our lines, with instructions to reject coal not fit for engine use. This resulted in not only helping the Boston & Maine, but other roads—thanks to the helpfulness of the manager of the Fuel Conservation Section.

As the conditions became more urgent we realized it was not a one, two or three-man job. Committees were formed, a general committee composed of general officers, a fuel conservation committee for investigating and suggestion, and nine division committees consisting of a superintendent, master mechanic, division engineer, road foreman of engines, agent, locomotive engineer, fireman, power plant man, one representative at least from each department. Sub-committees at important places were also appointed. These committees hold regular meetings at which matters relating to fuel economy are discussed, and between times, on post cards sent out for the purpose, suggestions are received from employees in all capacities, all of which are acted upon through the divisional committee meetings. Thus you will see that the conservation propaganda is carried on in a similar manner to that of the "Safety First."

Places where coal is used or ashes drawn are visited, men talked with and interested, and usually we get more from the man on the job than we give him as to how things should be done and we feel that if we cannot get our men interested and their support and co-operation, our efforts cannot be successful. Efforts in other directions also have been started with a view to greater results.

The suggestions we receive from the fuel administrator and other sources, are placed in the hands of our men, and are very helpful to all of our committees in the important work of fuel conservation.

## Address by Robert Collett

The efforts of the Fuel Conservation Section have been chiefly directed towards passing on to the various railroad officers the good things we have found their neighbors doing. In all of this there has never been a time that any suggestions that were applicable to the conditions have not been kindly received, and if there has been anything left undone the fault lies with ourselves and not in lack of co-operation.

If anything more is needed to further the cause it is the continued co-ordination of the efforts of all departments. More people need to know more about the fuel, its potential possibilities and the relation these possibilities bear to good railroad operation. In times past fuel economy campaigns were more or less spasmodic, too much of a local proposition, frequently due to the stress of dull business and hard times. Obviously the organization was not so thorough as might otherwise have obtained and it was not surprising that with the return of heavy business the efforts of those selected to specialize were diverted to the natural channels of keeping the business moving. Those campaigns also sometimes depended too much on statistics which were too prone to error and were lacking in that personal contact toward every angle of the situation which is so essential in order to bring about the interest that alone will bring results.

The efforts to establish a fuel economy department entirely separate from the supervision already provided for looking after locomotive and train performance, without including

such supervision, has fallen somewhat short of expectations. Maximum results are now obtained where the full measure of responsibility is being taken by each individual and department, such responsibility being clearly established and defined with the supervision complete from the chief operating officer right down the line. This is extremely important.

To obtain results the supervisor must first understand the language of the individual he is to supervise and then he must really supervise. He must not follow the line of least resistance, but by friendly counsel and encouragement point the way.

Never again will fuel become the commonplace proposition it once was. By reason of the lessons we have learned through the stern necessities of war every department of the railroad will see to it that the use of fuel receives more nearly than it ever has in the past the attention it deserves.

### Remarks by Mr. Woodbridge

H. C. Woodbridge, assistant manager of the fuel conservation section, Allegheny region, spoke briefly and to the point concerning the effect of leaks in shop air lines and power houses upon the coal pile. He mentioned an instance, fairly typical of conditions in general, in which he had recently found a shop compressor running at about one-half of its full capacity to maintain the leakage, at a time when no work was being performed in the shop.

## New Wage Increase for Telegraph and Telephone Operators

**D**IRECTOR GENERAL McADOO on November 16 announced his award of increased wages, effective October 1, for telegraphers, telephone operators excepting switchboard operators, agent-telegraphers, agent-telephoners, towermen, levermen, tower and train directors, block operators and staffmen. The award affects between 60,000 and 70,000 employees, and involves increases approximating \$30,000,000 per annum.

All rates of wages paid as of January 1, 1918, prior to the application of General Order No. 27, and exclusive of all compensation for extra services, are first reduced to an hourly basis, which is arrived at in case of monthly paid employees by dividing the annual compensation by the number of regularly assigned working days for the year 1918, and then dividing the daily rate thus obtained by the regularly assigned or established number of hours constituting a day's work exclusive of the meal hour. The hourly rate for weekly and daily paid employees is arrived at similarly.

Rates thus obtained, where less, are first advanced to a basic minimum of 35 cents per hour, and to this basic minimum, and to hourly rates which are above the minimum, 13 cents per hour is added.

Eight consecutive hours, exclusive of the meal hour, constitutes a day's work and overtime will be paid at the rate of time and one-half. There has been no consistent practice on the several railroads with respect to this item. On the majority of railroads there has been in effect, however, varying rates for overtime, some of which were less, and in instances more, than the time and one-half rate.

The award does not apply to cases where individuals are paid \$30 per month or less for special service which only take a portion of their time from outside employment or business, and in the case of employees who are paid upon a commission basis or upon a combination of salary and commission, not including express or outside commissions, the Board of Railroad Wages and Working Conditions is in-

structed to make individual recommendations when properly presented.

The director general has for consideration, and will announce some time during the week, an award covering compensation for exclusive agents who are not telegraphers.

The text of the award, which is supplement No. 10 to General Order No. 27, is as follows:

### ARTICLE I

- (a) All employees herein specified shall be paid on the hourly basis.
- (b) To determine the hourly rate for positions held by monthly paid employees, other than those provided for in paragraph (a), Article VIII, multiply by 12 the regular monthly rate in effect as of January 1, 1918, prior to the application of General Order No. 27 (exclusive of all compensation for extra services) and divide by the number of regularly assigned working days for the year 1918; then divide the daily rate thus obtained by the regularly assigned or established number of hours constituting a day's work, exclusive of the meal hour.
- (c) To determine the hourly rate for positions held by weekly paid employees, other than those provided for in paragraph (a), Article VIII, multiply by 52 the regular weekly rate in effect as of January 1, 1918, prior to the application of General Order No. 27 (exclusive of all compensation for extra services), and divide by the number of regularly assigned working days for the year 1918; then divide the daily rate thus obtained by the regularly assigned or established number of hours constituting a day's work, exclusive of the meal hour.
- (d) To determine the hourly rate for positions held by daily paid employees, other than those provided for in paragraph (a), Article VIII, divide the regular daily rate in effect as of January 1, 1918, prior to the application of General Order No. 27 (exclusive of all compensation for extra services) by the regularly assigned or established number of hours constituting a day's work, exclusive of the meal hour.
- (e) Where there are no regularly assigned or established daily hours, for the purpose of computing the hourly rate, ten hours shall be used as the divisor.
- (f) In determining the hourly rate, fractions less than one-fourth of one cent shall be as one-fourth of one cent; over one-fourth and under one-half, as one-half cent; over one-half and under three-fourths, as three-fourths of one cent; over three-fourths, as one cent.

Method of obtaining hourly rate as of January 1, 1918:

#### Monthly Examples

- I.  $\$100 \times 12 = \$1,200$ , divided by 307 days = \$3.9087, divided by 8 equals 48.86c. Hourly rate 49c.
- II.  $\$100 \times 12 = \$1,200$ , divided by 312 days = \$3.8461, divided by 9 equals 42.73c. Hourly rate 42.75c.
- III.  $\$100 \times 12 = \$1,200$ , divided by 365 days = \$3.2876, divided by 10 equals 32.88c. Hourly rate 33c.

#### Weekly Examples

- IV.  $\$20 \times 52$  equals \$1,040, divided by 312 days equals \$3.3333, divided by 8 equals 41.66c. Hourly rate 41.75c.
- V.  $\$20 \times 52$  equals \$1,040, divided by 365 days equals \$2.8493, divided by 10 equals 28.49c. Hourly rate 28.5c.

#### Daily

- VI. \$3.00 per day divided by 8 equals 37.50c. Hourly rate 37.5c.
- \$3.00 per day divided by 9 equals 33.33c. Hourly rate 33.5c.
- \$3.00 per day divided by 10 equals 30.00c. Hourly rate 30c.

### ARTICLE II—RATES OF PAY

For positions held by telegraphers, telephone operators (except switchboard operators), agent telegraphers, agent telephoners, towermen, levermen, tower and train directors, block operators and staffmen, who were on January 1, 1918, prior to the application of General Order No. 27, receiving less than 35c. per hour, establish a basic minimum rate of 35c. per hour, and to this basic minimum rate and all hourly rates of 35c. and above, add 13c. per hour, establishing a basic minimum rate of 48c. per hour.

### ARTICLE III—PRESERVATION OF RATES AND CLASSIFICATION

- (a) The minimum rates and all rates in excess thereof, as herein established, and higher rates which have been authorized since January 1, 1918, except by General Order No. 27, shall be preserved.
- (b) The entering of employees in the positions occupied in the service or changing their classification or work shall not operate to establish a less favorable rate of pay or condition of employment than is herein established.
- (c) Where existing pay roll classification does not conform to Article II, employees performing service in the classes specified therein, shall be classified in accordance therewith.

### ARTICLE IV—EXCEPTION

The provisions of this order will not apply in any case where amounts less than \$30 per month are paid to individuals for special service which only takes a portion of their time from outside employment or business.

### ARTICLE V—HOURS OF SERVICE, OVERTIME AND CALLS

- (a) Eight consecutive hours, exclusive of the meal hour shall constitute a day's work, except that where two or more shifts are worked, eight consecutive hours with no allowance for meals shall constitute a day's work.
- (b) Overtime shall be computed at the rate of time and one-half time. Even hours shall be paid for at the end of each pay period; fractions thereof will be carried forward.
- (c) When notified or called to work outside of established hours,



employees will be paid a minimum allowance of two hours at overtime rate.  
(d) Employees will not be required to suspend work during regular hours or to absorb overtime.

#### ARTICLE VI—UNITED STATES MAIL

When the carrying of United States Mail and Parcel Post by the employees herein specified becomes unduly burdensome or interferes with the proper operation of trains, they will be relieved from such work.

#### ARTICLE VII—DISCIPLINE AND GRIEVANCES

(a) An employee disciplined, or who considers himself unjustly treated, shall have a fair and impartial hearing, provided written request is presented to his immediate superior within five (5) days of the date of the advice of discipline, and the hearing shall be granted within five (5) days thereafter.

(b) A decision will be rendered within seven (7) days after completion of hearing. If an appeal is taken, it must be filed with the next higher official and a copy furnished the official whose decision is appealed within five (5) days after date of decision. The hearing and decision on the appeal shall be governed by the time limits of the preceding section.

(c) At the hearing, or on the appeal, the employees may be assisted by a committee of employees, or by one or more duly accredited representatives.

(d) The right of appeal by employees or representatives, in regular order of succession and in the manner prescribed, up to and inclusive of the highest official designated by the railroad to whom appeals may be made is hereby established.

(e) An employee on request will be given a letter stating the cause of discipline. A transcript of the evidence taken at the investigation or on the appeal will be furnished on request of the employer or representative.

(f) If the final decision decrees that charges against the employee were not sustained, the record shall be cleared of the charge; if suspended or dismissed the employee will be returned to former position and paid for all time lost.

(g) Committees of employees shall be granted leave of absence and free transportation for the adjustment of differences between the railroad and the employees.

#### ARTICLE VIII—RULES FOR APPLICATION OF THIS ORDER

(a) The foregoing basis will not be applied to positions where the compensation as of January 1, 1918, was upon a commission basis, or upon a combination of salary and commission (not including express or outside commissions). The Board of Railroad Wages and Working Con-

ditions will consider and make individual recommendations as to the correct salary for such positions when presented to it in the manner prescribed in Supplements No. 6 and No. 6-A to General Order No. 27.

(b) The pay for female employees, for the same class of work, shall be the same as that of men, and their working conditions must be healthful and fitted to their needs. The laws enacted for the government of their employment must be observed.

(c) Vacations with pay are abolished, effective January 1, 1919.

#### ARTICLE IX—INTERPRETATION OF THIS ORDER

The rates of pay and rules herein established shall be incorporated into existing agreements and into agreements which may be reached in the future, on the several railroads; and should differences arise between the management and the employer of any of the railroads as to such incorporation, intent, or application of this order prior to the creation of additional railway boards of adjustment, such question of differences shall be referred to the director of the Division of Labor for decision, when properly presented, subject always to review by the director general.

Agreements or practices, except as changed by this order, remain in effect.

After issuing the order, Director General McAdoo made public a telegram which he had received on November 16 from J. F. Siefert, general chairman of the Order of Railway Telegraphers, stating that the operators, despatchers, train directors and levermen employed on the Terminal Railroad Association of St. Louis and affiliated lines would cease work at 7 o'clock on Monday morning unless the award was made by that time. To this Mr. McAdoo replied: "It so happens that the order recommended by the Board of Railroad Wages and Working Conditions was signed by me before receipt of your telegram. If the decision had not thus been made before your threat of a strike was received the order would have been withheld until this threat had been eliminated. You must understand that the United States Government cannot be intimidated, and that it is highly improper to attempt to do so."

## Standard Time Zones Defined By the Commission

### Dividing Lines Moved West; Most of the Large Cities Relieved of Double Standard

THE INTERSTATE COMMERCE COMMISSION has issued its report fixing the boundaries of Eastern, Central, Mountain and Pacific standard time zones, and the changes are to go into effect at 2 a. m. on January 1, 1919. This order is made pursuant to the daylight-saving act, and it follows closely the tentative report issued by the commission two months ago, and noticed in the *Railway Age* of September 13, page 525. The present order is dated October 24. The daylight saving act requires common carriers engaged in interstate and international commerce to govern their movements by standard time, and provides that in determining the time within which acts shall be done by any federal officer or department the United States standard time shall govern.

The lines fixed by the Commission separating the time zones are shown in the map. Some railroads, however, which cross the boundaries between their division or terminal points will be permitted to carry their general time standard into an adjoining zone. These exceptions are enumerated in the order and the commission says that in such cases it expects that the carriers will advertise and show on their time tables and bulletin boards the arrival and departure of trains with reference to the standard of time generally used in the various communities.

The law, and this order, continue the use of the mean astronomical time of the 75th, 90th, 105th and 120th degree meridians west of Greenwich as standards for the Eastern, Central, Mountain and Pacific time zones, respectively, which have been used as standards since 1883, when the original plan was adopted. Several states and many municipalities have since adopted the time of one of the standard time meridians, but the commission finds that public sentiment and

habits have been more potent factors in fixing time standards than state statutes, and the usages of carriers have been and are largely controlling in determining local time, as it has been generally less inconvenient for communities to adjust standards and habits to railroad time than to endure dual time standards. The local conflicts as to what time standards should be followed in cities such as Cleveland and Detroit have been prolonged and bitter, and similar controversies have occurred at many less important points situated nearly midway between the time meridians.

The most pronounced differences in the line dividing Eastern from Central time are between Toledo, Ohio, and Kenova, W. Va., and south of Atlanta. The present line, from Lake Erie southward, takes in places as far east as Buffalo, Pittsburgh, Wheeling and Parkersburg, and from Atlanta it turns eastward and runs to the coast at Savannah. The new line sticks close to the meridian of 82½ and pretty nearly conforms to that suggested in the map presented by Mr. Judd in the *Railway Age* of August 2, page 209. The new line between Central time and Mountain time is somewhat more direct than the existing one, as far south as North Platte, Neb. Thence southward the old one forms a serpentine course to the east.

Between Mountain time and Pacific time the new line runs near the eastern boundary of Idaho, whereas the old one, according to the Rand-McNally Atlas, is not far from the western boundary of that state. From Ogden south the line is not much changed.

To accommodate the lines to railroad division termini the order makes numerous exceptions, as below:

1. Those portions of the lines below named located east

of the Eastern-Central boundary line shall be excepted from the Eastern zone and shall be included in the Central zone, viz.:

Railroad	From—	To—
Atlantic Coast Line.....	Georgia-Fla. state line.	River Junction, Fla.
Baltimore & Ohio.....	Dundas, Ohio	Parkersburg, W. Va.
Baltimore & Ohio.....	Columbus, Ohio	Newark, Ohio.
Chesapeake & Ohio.....	Huntington, W. Va.	Big Sandy River.
Cleveland, Cincin., Chic. & St. L.	Delaware, Ohio	Galion, Ohio.
Cleveland, Cincin., Chic. & St. L.	Marion, Ohio	Cleveland, Ohio.
Cleveland, Cincin., Chic. & St. L.	Columbus, Ohio	Delaware, Ohio.
Cleveland, Cincin., Chic. & St. L.	Clyde, Ohio	Sandusky, Ohio.
Cleveland, Cincin., Chic. & St. L.	Edison, Ohio	Mt. Gilead, Ohio.
Georgia, Florida & Alabama.....	Georgia-Fla. state line.	Carabelle, Fla.
Lake Erie & Western.....	Fremont, Ohio	Sandusky, Ohio.
Louisville & Nashville.....	River Junction, Fla.	Apalachicola River.
Northern Ohio.....	Plymouth, Ohio	Akron, Ohio.
Norfolk & Western.....	Valley Crossing, Ohio.	Columbus, Ohio.
Norfolk & Western.....	Williamson, W. Va.	Ohio River at Kenova.
Pelham & Havana.....	Georgia-Fla. state line.	Havana, Fla.
Pennsylvania Company.....	Bellevue, Ohio	Sandusky, Ohio.
Pennsylvania Company.....	Newark, Ohio	Columbus, Ohio.
Pennsylvania Co., Toledo div's'n.	Toledo Junction	Mansfield, Ohio.
Penns'lva Co., Zanesville div's'n.	Lancaster, Ohio	Trinway, Ohio.
Southern.....	Johnson City, Tenn.	Embreerville, Tenn.
Toledo & Ohio Central.....	Martel, Ohio	Thurston, Ohio.
Toledo & Ohio Central.....	Columbus, Ohio	Corning, Ohio.
Zanesville & Western.....	Thurston, Ohio	Zanesville, Ohio.
Zanesville & Western.....	Fultonham, Ohio	Shawnee, Ohio.

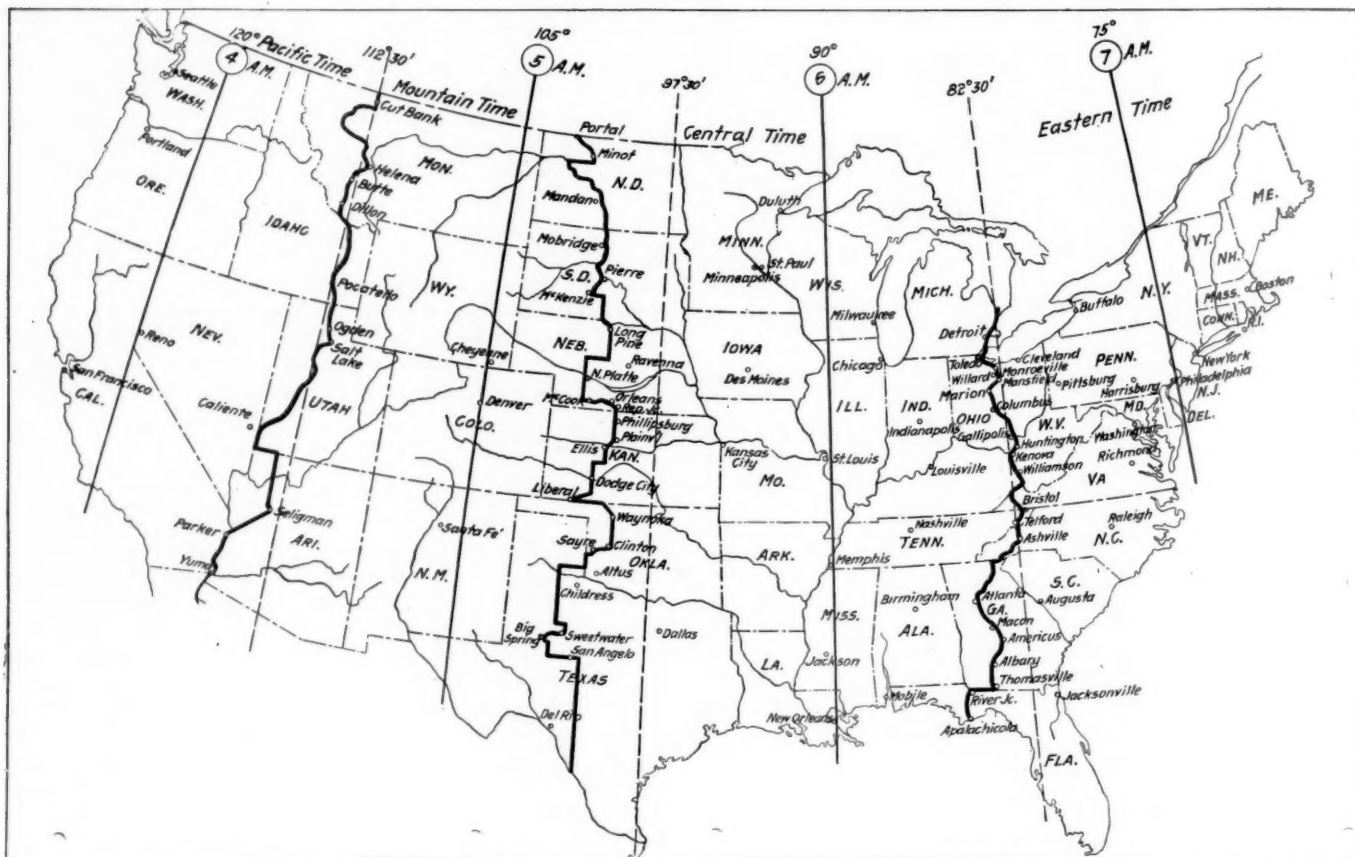
Railway, McDonough, Ga., to Macon, Ga.; Perry, and Thomasville, Ga. All others on this boundary line not specifically named shall be considered as within the Central zone.

3. Those portions of the lines named below east of the Central-Mountain boundary line shall be excepted from the Central zone and shall be included in the Mountain zone, viz:

Railroad	From—	To—
Great Northern.....	M. St. P. & S. S. M. Ry.	Northgate, N. Dak.
Chicago, Burlington & Quincy..	Curtis, Neb.	Line between townships 30 and 31 west of sixth principal meridian.
Do.	Ravenna, Neb.	Line between townships 18 and 19 north.
Fort Worth & Denver City.....	Childress, Tex.	Donley County, Tex.
Missouri Pacific.....	Hoisington, Kan.	Ness County, Kan.
Atchison, Topeka & Santa Fe..	Great Bend, Kan.	Ness County, Kan.
Kansas City, Mexico & Orient...	Altus, Okla.	San Angelo, Tex.

4. The following lines, located west of the boundary line, shall be included within the Central zone, viz:

Railroad	From—	To—
Missouri Pacific.....	Glade, Kan.	Lenora, Kan.
Clinton & Oklahoma Western...	Ralph, Okla.	Cheyenne, Okla.



Boundaries of the Eastern, Central, Mountain and Pacific Time Zones

2. The following railroad lines located west of zone boundary line above described shall be included within the United States standard Eastern time, viz.:

Railroad	From—	To—
Apalachicola Northern.....	Apalachicola, Fla.	Port St. Joe, Fla.
Atlanta, Birmingham & Atlantic.	Manchester, Ga.	Line of Dooly County.
Carolina, Clinchfield & Ohio....	Dungannon, Va.	Johnson City, Tenn.
Carolina, Clinchfield & Ohio....	Virginia-Kent'ky line.	Elkhorn City, Ky.
Norfolk & Western branch.....	Big Sandy River	Morcoal and McVeigh.

The following named municipalities shall be considered as within the Eastern zone: Fremont, Clyde, Bellevue, Monroeville, Willard, Shelby Junction, Galion, Lancaster, Dundas and Gallipolis, Ohio; Dungannon, Va.; Bristol, Va.-Tenn.; Asheville and Franklin, N. C.; points on Southern

Wichita Falls & Northwestern... Elk City, Okla. .... Forgan, Okla.  
Missouri, Kansas & Texas of Tex. Okla.-Texas state line. Wellington, Tex.  
Galv's't'n, Harris'b'g & San Ant'o. Del Rio, Tex. .... 100 degree meridian.

5. Those portions of the lines named below located west of the Mountain-Pacific boundary line, shall be included in the Mountain zone, viz:

Railroad	From—	To—
Chicago, Milwaukee & St. Paul..	Butte, Mont.	Deer Lodge, Mont.
Gilmore & Pittsburgh.....	Armstead, Mont.	Gilmore and Salmon.
Oregon Short Line.....	Blackfoot, Idaho	Mackay, Idaho.
Oregon Short Line.....	Moreland Junc., Idaho.	Aberdeen, Idaho.
Oregon Short Line.....	Brigham, Utah	Malad City, Idaho.
Oregon Short Line.....	Clearfield, Utah	Syracuse, Utah.
Los Angeles & Salt Lake.....	Delta, Utah	Lucerne, Utah.
Los Angeles & Salt Lake.....	Milford, Utah	Newhouse, Utah.
Los Angeles & Salt Lake.....	Caliente, Nev.	Utah-Nevada state line.



# Doings of the United States Railroad Administration

## Railroad Unification Will Continue Despite End of the War; Equipment Orders Delayed

WASHINGTON, D. C.

**N**EITHER THE END OF THE WAR nor the election of a Republican Congress supposedly hostile to the idea of permanent government operation or ownership of the railroads is to interfere with Director General McAdoo's plans for continuing the process of railroad unification. The law under which the roads are now being operated provides for the termination of federal control not later than 21 months from the date of the peace proclamation, and also authorizes the President to relinquish the roads before that time, but it can be stated authoritatively that Mr. McAdoo is not contemplating any relinquishment of control over the roads, and that he does not consider the fact that the 21 months presumably will soon begin to run sufficient reason for anticipating now the process of readjustment. While he does not believe that the time should be allowed to expire without the adoption of some permanent plan for the future, he expects that Congress will actively take up the consideration of that question at the next session, and meanwhile he proposes to give an object lesson of the methods by which he thinks the transportation service may best be conducted.

Having taken over the railroads to meet conditions growing out of the war, the Railroad Administration has never considered that its activities were limited merely to changes which could be declared necessary to winning the war, and now that the war has been won the director general plans to go right ahead with his efforts to demonstrate the superiority of a unified railroad system, under federal control and comparatively free from state interference, unless Congress shall in some manner call a halt. For example, he considers the proposed zone system of standard class rate scales, to be applied to both state and interstate freight, a most important reform which promises results sufficiently valuable to justify an effort to make it effective even under a temporary control. He considers that he has already given better service in many respects, and now that the pressure of war traffic may be expected to be lightened, the director general expects to make government operation produce better service and to be able to give greater consideration to public convenience, and he also hopes that the economies resulting from unification will ultimately produce results that will make it possible to reduce rates.

While there has been a strong impression in many quarters that Director General McAdoo has been working in the direction of government ownership, he has stated on more than one occasion that he is not in favor of government ownership, and he has declined to commit himself beyond a policy of unified operation of the railroads as a national system of transportation, without the wastes incident to competition and with uniform methods and practices throughout the country. In this connection it is recalled that in his recent letter to the regional directors asking them to arrange for more direct contact between the officers of the railroads and the public, he asked that railroad officers explain "the advantages which have accrued and will accrue in the future by the improvements in transportation conditions worked out by the Railroad Administration and which are bound to be continued permanently because of their efficiency, economy and expediency in the handling of traffic."

There had been some speculation in Washington, as soon as the attention of the authorities was suddenly challenged from the problems of war to the necessity of the transition to a peace basis, as to whether the scrambling process would be continued with the former degree of activity, or whether there

might not be a slowing up in the efforts in that direction in anticipation of the expiration of the period of government control. Some of the railroad men who compose the organization of the Railroad Administration had begun to feel some of the same kind of nervousness that prevailed among the officers of the individual roads about the time Mr. McAdoo began their reorganization. They wondered whether to proceed any further in their efforts to find permanent and comfortable residences in Washington. They may now feel it advisable in considering their future prospects to cast a weather eye in the direction of Capitol Hill.

Republican leaders in Congress are now engaged every day in discussing a reconstruction program, which includes a provision for dealing with the railroad question, embodied in a resolution drafted by Senator Cummins. One of the chief ideas of the plan is to keep control of reconstruction measures in the hands of Congress rather than of the executive, and the Cummins resolution provides for the creation of six joint congressional committees of 10 members each to investigate and make recommendations to Congress. One of the six would be a committee on interstate transportation, to consider whether the railroads should be returned to their owners and operated as heretofore, whether government operation should continue, with or without government ownership, or, if private ownership is to be continued, what system of regulation and control will be best adapted to the purpose. This plan was approved at a conference of Republican Senate leaders on Tuesday. The joint committee on interstate transportation would also consider the question of the disposition of telegraph and telephone lines which have been taken over by the government, and control of which Postmaster General Burleson is apparently endeavoring to make permanent.

### Price Question Delays New Railroad Orders

The idea of using large orders for cars, locomotives and rails for the railroads to take up the slack in the steel business and ease over the transition from war to peace has encountered a stumbling block in the price question. It appears that the government is no more anxious than private corporations to pay war prices, but the government has certain advantages over private corporations in the matter of prices which may assist in removing the difficulty. While the Railroad Administration has placed additional orders for locomotives since its original order for 1,025 in April, bringing the total up to 2,030, it has been deterred from increasing its order for 100,000 freight cars by the scarcity of labor and materials and because of the war department's requirements for cars for French service; and it has placed no rail orders this year because of objection to the price recommended by the price-fixing committee of the War Industries Board. It has been understood that it was actively preparing to place new orders as soon as the steel was made available and at a conference last week of a committee representing the American Iron & Steel Institute with Chairman Baruch and other officers of the War Industries Board, the steel men suggested that large railroad orders would help considerably to keep the steel industries and their employees busy during the reconstruction period. It was then that the stumbling block came into evidence.

Director General McAdoo has ordered the railroad corporations to pay for the cars and locomotives already ordered, in spite of their protests. While he declined to change his position in this matter at their request, he is said to have

some doubts as to whether he can make his decision stick without a lawsuit. The railroad corporations have still greater objections, now that the war is supposed to be over, to paying war prices for equipment over which they will have no control for some time, from which they will earn no revenue, and which they could probably purchase at much lower prices later on if or when their properties are restored to them. Director General McAdoo also has a similar disinclination to pay high prices for equipment over which he may have control for only a short time. The steel companies do not see how they can reduce prices materially as long as the war wages continue and the Department of Labor is trying to maintain wages.

Point is given to the statement that there is some doubt as to the effect of the director general's order that railroad corporations must pay for the equipment by a brief filed by attorneys for the Toledo, St. Louis & Western in the federal court at Toledo, contesting the order directing Walter L. Ross, receiver of the road, to buy 1,250 freight cars at a cost of \$3,572,250. The company contends that payment should be made from the director general's revolving fund.

If John Skelton Williams, director of purchases for the Railroad Administration, can succeed in lowering prices, possibly the objections of both the director general and the railroads can be overcome, as the administration is willing to assist in financing the purchases.

As far as the rail question is concerned, the rail mills will be kept busy for several months to come in turning out rails on the uncompleted orders placed a year or two ago by many roads for 1918 delivery and on some orders placed in advance for 1919 delivery. It was recently estimated that of the 2,000,000 tons ordered for 1918 rolling, only about 1,400,000 tons would be delivered this year. It now appears likely that hardly more than 1,100,000 or 1,200,000 tons will have been delivered by the end of the year, and there are 472,000 tons on order for 1919 delivery, which means that it will be well into 1919 before present orders are completed. Deliveries during most of the year have been at the rate of about 25,000 tons a week, and now that the war is over it is expected that deliveries may be made at the rate of perhaps 50,000 tons a week, beginning with December, because the steel mills can change very quickly from rolling shell steel to rolling rails. The rails delivered this year were contracted for at comparatively low figures, \$30 to \$36 a ton, at about the time the standard price was raised to \$45 a ton because the steel companies offered to take contracts for future delivery at the old prices. When the Railroad Administration began pooling rails this fall and distributing rail delivered on the old orders to the roads which had failed to place advance orders, the steel mills, it is said, displayed marked reluctance, taking the position that rails for the roads which had not ordered in advance should be placed at higher figures. No new contracts have been placed, however, because the price question has remained unsettled. The cost of probably 80 to 90 per cent of the new rails would be charged against the Railroad Administration rather than against the corporations, because they would be used largely for maintenance work rather than for new work.

The federal control law provides two ways of securing additional equipment and other improvements. The revolving fund of \$500,000,000 plus any surplus earnings may be used to provide terminals, motive power, cars and other necessary equipment or the President may make or order any carrier to make the improvements at the carrier's expense. A company may make claim for loss accruing to it by reason of expenditures for improvements or equipment made by order of the director general, the claim to be adjusted as provided in the act by reference to the Interstate Commerce Commission, but the companies are debarred by the standard contracts with the government, which have not yet been signed in most cases, from claiming a loss on the ground that the cost was greater

than under other market and commercial conditions. There are limitations to the revolving fund and it is probable that Director General McAdoo sees very clearly the expediency of keeping his expenses sufficiently below the sum of the revolving fund and current revenues to avoid the necessity of asking for another appropriation.

Although the \$500,000,000 has been drawn on rather heavily, plans are being considered by which it may be replenished sufficiently to enable it to continue revolving. The principal drafts on the fund have been to make advances to railroad companies on account of their unsettled compensation or loans to meet maturing obligations. It is now contemplated that many of such loans shall be transferred to the War Finance Corporation, if certain changes in the law can be made, which would then reimburse the revolving fund. It has also been proposed to use the War Finance Corporation to assist railroad companies to finance the purchase of equipment or other improvements ordered by the director general. In case a company cannot find a market for its own equipment trust securities, the War Finance Corporation might take them and issue its own securities at a lower rate of interest.

#### Conditions in Central Western Region

A substantial improvement in the railroad service given in the loading of livestock, grain and coal during the month of October, 1918, as compared with the same month in 1917, was noted by Hale Holden, regional director for the Central Western Region, in a report for the month of October to Director General McAdoo. The number of cars of livestock loaded showed an increase of 7.2 per cent; coal cars loaded, an increase of 15.5 per cent; grain cars loaded, an increase of 15.9 per cent. Special arrangements were also made for handling the fruit traffic from California and Colorado, 116 fruit specials with 4,545 cars having been operated during the month from California to the Missouri river and Chicago, and 24 through trains, with a total of 643 cars, having been operated from Colorado. A full car supply was maintained at all times for the movement of oil traffic in the region. Mr. Holden reported with regard to coal that the outlook is better for the winter than it has been since the fall of 1915.

With regard to routing, Mr. Holden reported a saving of 7,507 cars for the month of October, or 1,310,588 car miles, an average of 174 miles per car. A number of unifications of facilities were also arranged, with a resulting saving of approximately \$400,000 per annum. Some extracts from the report follow:

The car supply for coal and other rough freight was ample to meet requirements but the shortage of box cars suitable for grain loading on certain lines, has been quite pronounced, due, in a measure, to the heavy outbound movement of grain and flour from primary markets, which rapidly depleted the supply for loading at country points. Arrangements are already effective for movement of an additional supply of empty cars from other regions to meet this condition.

The harvesting of the sugar beet crop in the western territory commenced during the month and is progressing satisfactorily. To handle this traffic it was necessary temporarily to withdraw a considerable number of cars from the coal trade but this has been accomplished without visible effect on coal production.

There was experienced a shortage of double deck cars for sheep movement in Colorado, but the condition was not serious nor long continued, and the range stock movement has been handled with reasonable satisfaction to the shippers.

Coal, grain and livestock loading increased quite substantially but there was a falling off in the loading of forest products, ore and miscellaneous freight to the extent that the total revenue freight loaded shows a decrease of 3.9 per cent. The fact that this record is made as of carloads, however, is not conclusive because the indications are there was



heavier loading per car, indicating that the total tonnage of all freight loaded will probably show an increase for the month.

**Oil Traffic.**—A full car supply was maintained at all times. Operated out of the Mid-Continent fields a total of 586 trains, with 15,973 cars, an average of 27 cars per train, of which the Santa Fe road handled 94 trains, with 2,849 cars, an average of 30 cars per train.

**Troop Movements.**—The Eighth Division, with 20,732 men, moved from Camp Fremont, California, to Camp Mills, Long Island, during period October 18 to 24, inclusive. This movement consisted of 42 trains with a total of 580 cars, all of which departed from Camp Fremont on schedule time. No personal injuries of consequence were reported. Altogether, and including the Eighth Division, a total of 97 trains, with 39,194 men, moved within the Central Western Region.

**Coal Traffic.**—Coal loading generally for the Central Western Region showed an increase of 15.5 per cent. In the western fields of Colorado, Utah and Wyoming, there is every evidence that the market was kept completely full of coal. The coal situation in Illinois and Indiana has been most satisfactory and the loading has exceeded all previous months of the year except July, which was the record month. Notwithstanding the heavier loading, there was less complaint of car shortage than in any similar period during the past seven months. The only serious car shortage in October was on the C. C. C. & St. L., but that has been corrected and mines on that road are now enjoying full car supply. Production of coal in these states has overtaken consumption. This was recognized by the Fuel Administration and all restrictions against furnishing bituminous coal for non-essential or non-preferential uses, even including country clubs, have been withdrawn. During the month some mines were closed for a time for lack of market, and unbilled coal in cars awaiting sale is appearing at the mines in certain fields at times in considerable quantity. As a result, some of the mines have temporarily suspended operations. The outlook for the winter is better than it has been since the fall of 1915. The country is stocked up to a greater extent than ever known before. The car supply in October was better than it has been during any sustained period since July, 1916, and the mines are producing more coal than ever before in their history.

All things considered the Railroad Administration can, in respect of fuel supply, view the future in this region with serenity, confident that there will be no lack of fuel through any failure of the transportation system.

**Sailing Day Plan.**—During the month of October the Sailing Day Plan was inaugurated at 33 additional stations in this region which, combined, show a weekly saving of 527 cars, making a total car saving at points within the Central Western Region on account of sailing day, of 4,251 cars per week.

**Terminal Situation.**—All of the large terminals in the region have been operating effectively and there has been practically no congestion in carload or less carload business. The terminal managers at Kansas City, Omaha, Ogden, Salt Lake, Peoria, Tri-Cities and Des Moines all report a free movement through their gateways and generally satisfactory conditions.

**Power and Equipment Conditions.**—The labor situation in the mechanical department seems to have become stabilized which is reflected in increased shop output at various points.

#### NUMBER OF MEN IN CAR AND LOCOMOTIVE DEPARTMENTS OCTOBER 19, 1918

	1918	1917	Inc.	Per cent
Car department .....	23,976	22,052	1,924	8.7
Locomotive department.....	64,151	57,640	6,511	11.3
Total .....	88,127	79,692	8,435	10.5

#### NUMBER OF LOCOMOTIVES TURNED OUT OF SHOP, WEEK ENDING OCTOBER 19

	1918	1917	Increase
846 .....	733	113	15.4%

We have repaired five eastern line locomotives in Central Western Region shops during the month and have just received 35 additional Baltimore & Ohio locomotives for general overhauling at shops of the Chicago, Burlington & Quincy; Atchison, Topeka & Santa Fe; Chicago, Rock Island & Pacific and Illinois Central. Fifty-seven of our

western line locomotives are still in service on eastern lines and we have received from builders during the month of October 80 new locomotives.

**Maintenance of Way.**—Federal managers as a whole report the condition of their track and property to be as good as it was last year with a very few exceptions.

The number of men working on maintenance of way this year compared with last year is as follows:

October, 1918 .....	69,401
October, 1917 .....	63,868
Increase .....	5,533
Per cent increase.....	8.7

**Routing.**—The reports of activities in the way of re-routing indicate a saving of 7,507 cars for the month of October or 1,310,588 car miles, an average of 174 miles per car. Of this total 2,880 cars with saving of 836,764 car miles, or an average of 290 miles per car, were routed by agents at points of origin. We have been making special efforts to secure proper initial routing and the above figures indicate that good results are being obtained. Large volume east-bound traffic from Southern California, heretofore moving over Southern Pacific to Ogden, has been diverted over the Los Angeles & Salt Lake and reverse movement for Southern California destinations, formerly moving over Southern Pacific and Western Pacific, has been re-routed over the Los Angeles & Salt Lake at Ogden, Salt Lake and Provo connections. Coal from Wyoming for Northern Idaho is now moving through Silver Bow and over northern lines, which results in a saving of 270 miles per car compared with the distance via the Huntington gateway.

**Unification of Facilities.**—Pairing of tracks of Denver & Rio Grande and Santa Fe between Denver and Pueblo was made effective October 1. Arrangements for pairing of Western Pacific and Southern Pacific tracks between Winnemucca and Wells were concluded during the month of October and joint operation began November 3. Agreement was entered into for consolidation in the vicinity of Salt Lake, Provo and Ogden which will effect a yearly saving of \$340,000. There have been some consolidations effected at Peoria between the eastern and western lines resulting in a saving of \$4,600 per month by proper use of car inspection and car repair forces. During the month of October the inspection of cars at Blue Island, Ill., on the Chicago, Terre Haute & Southeastern, was discontinued and this work transferred to the Faithorn Terminal, resulting in approximate saving of \$14,400 per annum. The general good effect of unification of facilities is most noticeable at large terminals where terminal managers make use of their authority to transfer bad order cars from one line to another line able to make repairs promptly.

#### General Order No. 55

Director General McAdoo, on November 14, issued General Order No. 55, prescribing the following regulations to govern the assessment and collection of transportation and other charges for all services performed by carriers under federal control; the refund of overcharges, and the collection of undercharges, and also the disposition in the accounts of such carriers of uncollectible undercharges and agency relief claims:

(1) Officers and agents of carriers under federal control are required and expected to collect the correct amount due for each service performed, determined or determinable by the application of the lawfully published rate or rates applicable to such services, plus charges for intermediate or terminal service not included in and made a part of such rate or rates, and war taxes applicable to the foregoing.

(2) They shall continue, or if not already established, institute such methods as may be necessary to insure, as accurately as possible, the correctness of such charges before the collection thereof.

(3) When the amount of overcharge is determined after collection of charges, refund shall be made on presentation of original freight receipt, and the amount of such refund shall be indorsed on such receipt.

(4) Formal claims for overcharge presented by claimants shall be prepared on the standard form approved by the Interstate Commerce Commission. They shall be supported by the original paid freight receipt, and if claim is based on weight, misrouting, valuation, etc., by all other obtainable documents or particulars. If the original paid freight receipt cannot be presented claimant's indemnity bond may be required. If overcharge is based on the rate clear reference shall be shown to the tariff or base in which the rate claimed is published. Such formal claims shall be presented to, and adjusted by, either the initial or the destination carrier. If claims are presented to intermediate carriers they shall be immediately transmitted to one of those named.

(5) Claims paid by carriers other than the carrier which collected the

freight charges shall, in the discretion of the accounting officer, be sent to such collecting carrier to be registered, in order that duplicate payments may be avoided.

(6) No apportionment shall be made among carriers of overcharge claims paid, or of agency relief claims covering charges absorbed, such as switching, elevation, transfer charges, terminal delivery charges, icing, cost of grain doors, or other analogous items. This rule does not apply to claims for charges on freight destroyed or confiscated.

(7) Claims for overcharges which cannot be refunded by agents shall be promptly forwarded to the proper officer having jurisdiction. Such officer, upon receipt of such claims, properly supported, shall take immediate steps, consistent with accuracy, to determine the correct charge applicable. If the amount claimed be found correct, or if an overcharge in any amount be found, such amount shall be promptly refunded, and any difference between the amount claimed and the amount refunded clearly explained to the claimant. If the claim be wholly invalid, the claimant shall be notified promptly.

(8) In the event an undercharge be developed after collection of transportation charges, or in the investigation of a claim or otherwise, the officer or agent having jurisdiction shall promptly prepare a freight bill for such undercharge, upon which bill shall be shown all facts incident to the transaction, and such freight bill shall be promptly presented for collection.

(9) The duty of collecting such undercharge shall rest with the officer or agent whose duty it is to collect transportation charges, and he shall exhaust every reasonable effort to collect such amounts.

(10) In the event of failure to make collection of an undercharge, after every reasonable effort has been made to do so, the officer or agent charged with the duty of collecting the undercharge shall promptly transmit the bill therefor, with a statement of all facts incident to his efforts and failure to collect, to the accounting officer having jurisdiction. Appropriate adjustment of the agent's accounts shall be made by station claim or otherwise, according to the established practice of the carrier.

(11) If the facts presented with such undercharge indicate that every reasonable effort has been made to collect it, appropriate action shall be taken as follows:

(a) General order 55 reads: If a bill for an undercharge be for five dollars or less in any one case, and in the exercise of his business judgment he concludes that further efforts to collect would be futile, the chief accounting officer shall direct that it be charged off.

(b) If a bill for an undercharge be for more than five dollars (\$5.00) in any one case, it shall be promptly transmitted by the accounting officer to the chief counsel of the carrier interested, and his recommendations as to its disposition shall be followed.

(c) If the party liable for the undercharge cannot be located, or service cannot be had, or where, upon investigation by counsel in good faith, it is found that legal process would be futile and ineffectual, counsel shall direct the claim to be charged off and it shall be so disposed of; otherwise, suit shall be entered for its collection.

(12) All undercharges determined to be uncollectible as prescribed in subparagraphs a, b, and c, of paragraph 11 hereof, shall be borne by the carrier which originally settled the freight charges on the erroneous basis, regardless of the responsibility for such error in settlement.

(13) In the event that suit be instituted to collect an undercharge, the cost of such suit shall be borne by the suing carrier. If the undercharge be not collected under suit, the amount thereof shall be disposed of as provided in paragraph 12 hereof.

(14) In the event freight be destroyed or confiscated in transit, so as to preclude the possibility of delivery of the freight or collection of the charges, no part of the freight charges accruing thereon to any participating carrier shall be included in interline accounts. If waybills have been audited and settled before information concerning the destruction or confiscation of the property is available, such waybill shall be made void, and resettled with participating carriers by correction account or through claim channels.

(15) The provisions of this order shall apply to overcharges, uncollectible undercharges, and to other charges herein referred to, which accrued or which may accrue on and subsequent to January 1, 1918. Settlements which have already been completed on the basis of rules heretofore in effect, shall not be readjusted.

### Arrangements to Give Preference to Exports of Foodstuffs

Owing to the cessation of hostilities, the previously arranged shipping program for overseas freight on account of the United States and her allies will be materially changed as to commodities. At a recent meeting between members of the New York Freight Traffic Committee and representatives of the ministries of shipping of the British, French and Italian governments, it was determined that foodstuffs of all kinds shall be given preference in shipments abroad.

According to the report of the Exports Control Committee, for the week ended November 17, in order to take care of the prospective demand that will be made for transportation facilities, a large number of permits have been cancelled and freight held non-essential will not be forwarded from points of shipment. Any freight for which permits will hereafter be issued will be for immediate overseas movement, with the exception of some weight cargo. Various commodities now on ground storage will have to be held for future developments. Goods for the account of the Belgian Relief

Commission and for neutral countries probably will be moved in considerable volume.

The war department is now engaged in taking an inventory of all freight on hand which is considered non-essential for overseas. There is an earnest desire evidenced by all those concerned so to arrange matters that the railroad terminals will promptly be cleared of freight now on hand and in transit. According to the report of the Exports Control Committee there was a decrease of 75 cars of steel at the South Atlantic and Gulf ports for the week ended November 17. The indications are that there will be quite a heavy movement of clothing to Belgium and Northern France in the near future, and cars will be needed to transport it to the seaboard.

The grain situation, according to the Exports Control Committee, for the week ended October 7, shows that at North Atlantic ports there were 422,102 tons in elevators, while 93,690 tons had been cleared. At the Gulf ports there were 258,510 tons on hand, while 13,862 were cleared. The storage capacity of elevators at Gulf ports is being utilized, but the slow lifting at these points prevents the maximum turnover as transfer facilities. There is sufficient quantity of grain at Philadelphia and Baltimore amply to provide for ships in port and due. Government oats at north Atlantic ports, of which there are several hundred cars being held, will be forwarded from shipping point at the rate of 30 cars a day, but cars have been bunched in transit and have arrived beyond the possibility of immediate unloading into the elevators. At New Orleans the excess accumulation of grain in cars has been entirely cleared up, and in view of the available space in elevators and open tonnage allocations, permits were issued during the week to cover 426 cars of grain to move from interior points.

At Galveston the handling of export grain continues inactive. No grain has been delivered to vessels since October 16, and there are no ships in port, although five have been scheduled to call during the present month. The stock of grain in elevators is 2,289,000 bushels, and permits were issued during the week to cover 52 additional carloads to move from interior points.

In the Puget Sound district the situation has not improved in the past week. There has been an excess of arrivals over deliveries of 248 cars, which is chargeable to the arrival of export freight without permit or shipped under expired permits. In the San Francisco district there were 1,448 cars on hand on November 8 as against 1,426 on November 1.

On November 9 the primary elevators of the country held a total of 114,041,000 bushels of grain, as compared with 17,356,000 bushels on the same day in 1917. On November 9, 1918, there were in the primary elevators 3,767,000 bushels of corn, as compared with 157,000 bushels on the same day 1917; on the same day in 1918 there were 15,841,000 bushels of oats, as compared with 12,160,000 bushels on the same day in 1917; on the same day in 1918 there were 94,433,000 bushels of wheat, as compared with 5,039,000 on the same day in 1917.

### P. S. & A. Circulars

Recent circulars issued by the Division of Public Service and Accounting are summarized as follows:

P. S. & A. Circular No. 40 provides that effective at once, no bills shall be made by one carrier under federal control against other carriers under federal control for tariffs or other publications, or copies thereof, furnished by one such carrier to another; neither shall any charge be made by any tariff bureau or publication agent for the publications furnished to the lines under federal control. Tariffs, or copies thereof, or other such publications furnished by lines under federal control, or by tariff bureaus, or publication agents, to the public or to lines not under federal control shall be billed as heretofore.



P. S. & A. Circular No. 41 provides that all valid claims for overcharge presented for payment by shippers or consignees to lines under federal control on or after November 1, if not paid within 30 days, shall bear interest at a rate of 6 per cent to the date of payment. Interest shall not be paid on any overcollection of war taxes which is refunded in connection with the overcharge. Any overcharges collected prior to January 1, 1918, or subsequent to December 31, 1917, claims for which have been filed prior to November 1, 1918, shall bear interest at a rate of 6 per cent per annum, if not paid within 30 days from the last-named date. General Order No. 25 requires shippers and consignees to promptly pay transportation charges. In the event that an overpayment is made by a shipper or consignee, due to an error in weight, rate, extension, or classification, it is the duty of the carrier to promptly adjust the error; therefore, accounting officers of lines under federal control shall immediately inaugurate appropriate methods of accounting such as will result in the payment of claimants of overcharge claims within the prescribed free time of thirty days after filing or with a minimum of delay beyond that period.

P. S. & A. Circular No. 42 provides for the method of accounting for tickets issued in exchange for scrip, mileage, government transportation requests or other forms of orders.

P. S. & A. Circular No. 43 provides that, pursuant to General Order No. 49 prescribing standard forms of monthly ticket and excess baggage reports, carriers under federal control shall issue instructions to their agents for the preparation of such reports to conform with detailed regulations set forth in the circular.

P. S. & A. Circular No. 44 provides that, immediately after the close of the September accounts there shall be forwarded to the Division of Public Service and Accounting a copy of the trial balance of the federal books, the accounts arranged so far as practicable, in the numerical order as to primary accounts provided by the classifications of the Interstate Commerce Commission, and arranged further in sequence, first, Income, second, Profit and Loss, and third, Balance Sheet Accounts. I. C. C. account numbers shall be shown with the name of each account.

P. S. & A. Circular No. 45 extends the provisions of General Order No. 20 to include bills rendered to or by the Pullman Car Lines.

#### Maintenance Records

A meeting of the engineering representatives of the seven regions will be held at Washington on November 26, with C. A. Morse, assistant director of the division of operation, in charge of maintenance and engineering, to discuss the amount of information in addition to that called for by Circular No. 22, which will be required in order to keep a proper record of the amount of maintenance during the period of federal control as compared with the work done during the three-year test period before federal control. This is necessary in order to comply with the provisions of the federal control law requiring that the railroads be returned to their owners in substantially as good condition as when they were taken. Circular No. 22, which was published in last week's issue, sets forth the more important information required and meetings of the chief engineers of railroads in each region have been held for the purpose of deciding on the amount and character of additional data which it will be advisable to collect. Each of the regional engineering assistants had prepared his own tentative outline for consideration at the regional meetings. Because of the increases in the costs of labor and materials it is proposed to record units of work done rather than the amount of money expended. Mr. Morse is not building up an elaborate organization, but has appointed a maintenance committee consisting of the engineering assistants to the regional directors or other representatives of each region, as follows: Eastern region,

Francis Lee Stuart; Allegheny region, E. B. Temple; Pochontas region; J. E. Crawford; Southern region, W. R. Rodenbaugh; Northwestern region, J. C. Hough; Central Western region, H. R. Safford and Southwestern region, E. A. Hadley.

#### Traffic Tonnage at Principal Cities

Director General McAdoo has issued the following comparative statement showing the freight handled by the railways under federal control at 25 of the more important railroad termini of the country during the 23 days ending October 14, 1918.

The purpose of this statement is to provide information that will assist in measuring the relative business activity of the country as indicated by the comparison between the tonnage handled this and last year at the points named.

Other cities will be added to the list as rapidly as arrangements can be made for the compilation of the figures. It is hoped that the information will be useful as a partial index of the country's business expressed in terms of cars and tons that will complement and supplement the statements issued by the Federal Reserve Board and the clearing houses in which the volume of business is reflected in terms of dollars.

The subjoined statement is noteworthy in that it shows an increase of 6.13 per cent in the tonnage as against an increase of only 0.23 per cent in the number of cars used to carry the increased tonnage.

	Cars		Tons	
	1917	1918	1917	1918
Atlanta .....	7,617	7,489	197,668	211,179
Birmingham .....	16,047	15,920	664,394	691,737
Boston .....	29,097	25,027	429,181	473,458
Buffalo .....	26,429	25,735	927,518	931,810
Chicago .....	155,899	156,809	6,027,182	6,352,070
Charleston .....	3,334	5,475	88,070	183,128
Cleveland .....	30,504	34,096	1,149,320	1,336,680
Duluth & Superior .....	80,892	89,335	3,576,881	4,046,549
Galveston .....	4,533	4,410	84,669	101,799
Hampton Roads .....	35,882	45,191	1,493,576	1,863,135
Kansas City .....	24,565	32,382	554,666	768,124
Los Angeles .....	6,001	5,559	140,539	135,418
New York .....	92,852	84,223	2,219,105	2,262,372
New Orleans .....	15,034	14,928	467,185	432,140
Omaha .....	13,219	13,074	434,261	445,887
Portland, Ore. ....	6,627	7,761	152,923	198,839
Philadelphia .....	66,517	46,885	1,819,457	1,547,232
Pittsburgh .....	26,535	26,066	847,876	942,385
Seattle .....	28,358	30,059	929,964	1,012,274
St. Louis .....	17,966	20,195	574,543	674,266
San Francisco .....	11,081	8,476	345,880	259,190
Savannah .....	6,023	5,987	100,165	111,005
Tacoma .....	3,096	4,327	96,029	140,520
Twin Cities .....	42,533	43,031	1,087,119	1,288,020
Toledo .....	34,433	34,431	1,544,790	1,134,412
Total .....	785,074	786,871	25,952,961	27,543,629
Increase .....		1,797		1,590,668
		=0.23%		=6.13%
Average tons per car.....			33	35

#### Passes for Corporate Officers Restricted

Some of the money which the government pays to the railroad corporations as rental for the use of their property may be returned to the government in the form of passenger fares paid by officers and directors of the corporations when traveling, because the issuance of passes to the corporate officers will be considerably restricted as compared with former years. C. R. Gray, director of the division of operation, has written to the chief executive officers of each railroad corporation, saying it has been decided that passes will be issued upon their request for directors and other officers who are assigned to work on the line, which transportation will be good over the railroad owned by the company. In addition, the chief executive officers will be furnished an annual pass over a much larger territory, and the vice-presidents, where they devote substantially their entire time to the business of the corporation, will be given transportation good over all lines in the region in which their railroad is located. This letter does not promise passes to vice-presidents located in New York of a railroad located in the West, who would have to travel over other lines to reach their property, and it indicates a decided reduction in the number of passes

which will be available to directors and officers below the rank of vice-president.

### Express Company Taken Over and Rates Raised

The American Railway Express Company was directly taken over by the government and placed under the jurisdiction of Director General McAdoo as of noon on November 18 by a proclamation signed by the President on November 16, and on November 20 Director General McAdoo issued General Order No. 56 initiating an increase in express rates effective January 1, which it is estimated will produce an increase in revenues of about \$24,000,000. The proclamation stated that the entire transportation system of the express company had been necessarily in substance and effect placed under federal control and that it was desirable in order to administer its business and operations to the best advantage to make it specifically clear by proclamation that the President has the entire possession, use, control and operation of the system, but it is understood that the main reason for the step was to enable the director general to initiate the increase in express rates without incurring the liability of having them suspended by the Interstate Commerce Commission, which might have been done if they had been initiated by the company, and also to make it impossible for state commissions to refuse to accept the new rates.

The status of the express company was a peculiar one, which had led to many misunderstandings. It was a private corporation formed by consolidation of the principal express companies and had made a contract with the director general making it the sole agent of the government for conducting the express business of railroads under federal control and which gave the director general control over its actions. It had been popularly assumed that the company was actually under federal control like the railroads and the Pullman car lines, and Director General McAdoo had been obliged to take up the rate question in order to secure revenues with which to pay increased wages, had had to deal with a strike of express employees and had referred the entire question of express wages and working conditions to his Board on Railway Wages and Working Conditions. It was, therefore, considered that express questions could be handled more simply by taking over the company.

The essential features of the rate increase order provide that in the territory north of the Ohio and Potomac rivers and east of the Mississippi river, the increase in express merchandise rates ranges from 16 cents to 17 cents per hundred pounds regardless of the distance hauled in that territory. The increase in the balance of the United States will range from 10 cents to 12 cents per hundred pounds on merchandise. The increase on food products will be about three-quarters of the increase on merchandise shipped by express.

When the director general recently submitted the plan for increased express rates to the Interstate Commerce Commission for its advice he indicated to the commission that it was necessary to raise approximately \$24,000,000 additional revenue, which under the contract would go practically half to the railroad revenue and half to the express revenue, and inquired whether the plan proposed would yield approximately that amount, and if so whether the plan was proper. The commission after a public hearing announced its conclusion that, if the amount of increased revenue was needed, the plan proposed was proper and preferable to any other method that had been suggested. The commission pointed out that under this plan the greater increase in rates would be applied in the eastern territory which is the territory "of lowest rates, of the greatest cost of operation and greatest increase in those costs," and stated that while the plan would be a departure from the original zone relationship established by the commission, that departure appeared under the

circumstances now presented to the commission to be justified.

The commission, however, raised for the director general's consideration the question whether the increase in rates could be obviated by a reduction in the amount which the express company is required to pay the Railroad Administration for the express privilege, but as the director general has heretofore announced, he considers that such change in the contract is not practicable in view of the relative cost to the Railroad Administration of handling the express business and in view of the heavy increase in the operating costs attributable to the railroad handling of that business.

The commission took the position that the Railroad Administration had not shown its need of increased revenue, although the latest monthly report of railroad earnings and expenses would seem to indicate why the \$12,000,000 additional revenue could be made useful. Some people thought there was some significance in the remark with which the commission concluded its opinion, that "no view as to jurisdiction of the initiation of the proposed rates has been requested or considered and no opinion on that point is expressed." It was also thought likely that when the express tariffs were filed the commission might suspend them pending an investigation to determine whether the \$12,000,000 increase might not be given to the express company without giving an equal amount to the railroads, but with the express company under federal control the rates become President-initiated rates which the commission cannot suspend but may only review after complaint and investigation.

The authority of the President was exercised, as in the case of the railroads, through Newton D. Baker, Secretary of War, and the taking over includes all appurtenances and property of every kind or nature, directly or indirectly owned, leased, chartered, controlled or used in the conduct of or in connection with the business of the American Railway Express Company. The proclamation further directed that the possession, control, operation and utilization of the system shall be exercised by and through William G. McAdoo and that he might perform the duties imposed upon him so long and to such an extent as he shall determine through the board of directors, officers and employees of the express company under the contract already made. Until and except so far as the director general shall otherwise provide, the board of directors, officers and employees of the company shall continue the operation thereof in the usual and ordinary course under such contract.

In a statement explaining the increase in express rates Director General McAdoo said:

"The fact that the eastern territory is the region of greatest cost of operation and of greatest increase in such cost is due to the fact that in that region there is the greatest percentage of short haul traffic on which relatively the terminal and other costs are greatest. Another important advantage in increasing the rates in the eastern territory to a greater extent than other parts of the country is that it will have a tendency to restore the proper balance between express and freight rates, which has been disturbed in recent years by the greater increases in freight rates that have been granted in that territory than in other parts of the country, which has resulted in the transfer from freight to express transportation of much traffic which ought to move by freight. This eastern territory has been swamped with express traffic for the past two years, a great deal of it having been diverted from the regular freight trains, causing congestion of terminals, over-crowding of passenger trains and producing a volume of traffic which prevented giving good express service on shipments which were usually handled in that way.

"It is expected the increased express rates will have the effect of transferring considerable of the short haul business to motor trucks and back to the freight service where it really



should be handled. It is also anticipated that another result will be the transferring of the handling of some of the smaller packages to the parcel post. It will increase the rates in some of the middle western states where the express rates have been unduly low; in fact, in some cases where they have been lower than the freight rates and considerably lower than the express rates in surrounding states which had adopted the Interstate Commerce Commission basis of rates made for the express.

"The express company increased the wages of its employees to the extent of about ten million dollars beginning July 1, which used up approximately the increase of 10 per cent in express rates effective July 15. It soon became evident that many express employees were still underpaid and the question of their wages is now being presented to the Board of Railroad Wages and Working Conditions and it is expected that the further increased wages will practically consume all of the increased revenue which will come to the express company after January 1 under this order."

The rate order provides for an additional increase in the states which did not accept the 10 per cent increase recently authorized by the Interstate Commerce Commission. Its main provisions are as follows:

Between points in Zone 1 and between points in Zone 1 and points in all other zones, the first and second class rates, both interstate and intrastate, shall be increased three scale numbers. Between points both outside of Zone 1, the first and second class rates, both interstate and intrastate, shall be increased two scale numbers.

Merchandise rates from points in the United States to points in Canada shall be increased 15 cents per 100 pounds, and commodity rates not stated in scale numbers shall be increased 10 cents per 100 pounds.

Commodity rates, both interstate and intrastate, stated in scale numbers, shall be increased not more than 10 cents per 100 pounds.

Commodity rates, both interstate and intrastate, which are stated in cents or in dollars and cents per 100 pounds, per pound, or other unit of weight, shall be increased 10 cents per 100 pounds, except as to mileage or commodity rates on milk and cream. Commodity rates, both interstate and intrastate, which are stated in cents or in dollars and cents per crate, barrel or other package or per car, shall be increased at the rate of 10 cents per 100 pounds based upon the authorized billing weight.

Milk and cream mileage or commodity rates, both interstate and intrastate, shall be made 25 per cent higher than rates in effect July 1, 1918.

Intrastate first and second class rates in states which have not adopted the existing Interstate Commerce Commission basis of first and second class rates, shall be made the same as the increased interstate rates in the same zone.

In states which did not adopt the increase of 10 per cent on commodity rates on intrastate traffic as authorized by the Interstate Commerce Commission on interstate traffic, by Fifteenth Section Order No. 746, such commodity rates shall be increased 10 per cent and in addition increased 10 cents per 100 pounds, except on milk and cream which shall be made 25 per cent higher than rates in effect July 1, 1918.

All intrastate rates which are to be increased under this order, if not now on file, shall be immediately filed with the Interstate Commerce Commission. Such intrastate rates shall not be applied to interstate shipments and the schedules containing said rates shall be so restricted.

### Weekly Report Traffic Conditions

Director General McAdoo's report of traffic conditions throughout the country for the week ended November 18 shows that as a result of the subsidence of the influenza epidemic, freight and passenger service have materially improved. An encouraging note is sounded affecting the relief work which this country will have to perform in the stricken European areas. While on October 1 there were but 7,000,000 bushels of grain in elevators and cars in the eastern region ready for shipment overseas, at the end of the current week 10,000,000 bushels were on hand to be loaded into vessels bound for European ports.

Arrangements for diversion of carload freight traffic from Pittsburgh gateway have been cancelled.

Tickets between New York and Atlantic City have been made interchangeable between the two roads.

Passenger schedule on Cumberland Valley has been rearranged to make better connections to and from the West.

Re-routing reports of week ending November 14 show saving of 327,087 car miles in central western region. The Salt Lake Line handled 100,000 men on special trains for shipbuilders during October.

With the consent of the War Industries Board the general

lumber embargo was cancelled under date of November 16.

The Food Administration reports continued shortage of cars for grain loading in Indiana and Illinois, and difficulty now being experienced in that direction in Idaho. These matters are being taken up by Car Service Section.

The Fuel Administration reports that in the Eastern, Allegheny and Pocahontas regions there is a surplus of car supply, and transportation is ample, except that the Chesapeake & Ohio is still overloaded eastbound.

In general, the car supply is reported as ample, and no material is reported to be held on account of car shortage.

### Director General to Supervise Employees' Magazines

Director General McAdoo's office has arranged a plan for exercising a general supervision over the various employees' magazines published by many of the railroads, without interfering with the present management of each magazine. It has been arranged that they shall have a uniform date of issue and shall be distributed to the employees at the time they receive their pay checks. The director general's office will furnish them with a considerable amount of copy in the shape of orders, circulars and notices regarding the activities of the Railroad Administration and in addition some special articles by members of the organization. A newspaper man, Isaac Gregg, heretofore on the Washington staff of the New York World, has been added to the staff of the director general's office, to assist in preparing publicity matter including the material to be sent to the employees' magazines.

### Notice to Be Given Companies of Expenditures for Capital Account

In Supplement No. 1 to General Order No. 12 the director general says "standard clauses" for the contracts between the government and the railroad companies provide that "prompt notice" shall be given the company of the making or ordering of additions, betterments, road extensions, equipment, etc., costing more than \$1,000, with an estimate of the cost thereof, and that "such notice shall be given before the beginning of the work or the acquisition of the property whenever in the judgment of the director general it is practicable to do so." In order the better to comply with said agreement, paragraph "Fifth" of General Order No. 12, dated March 21, 1918 (which authorized in certain circumstances work involving charges to capital account not in excess of \$25,000 to be contracted for and commenced in advance of approval by the director general) is amended, effective January 1, to read as follows:

Fifth: A requisition for authority on the form prescribed by D. C. E. Circular No. 1 and Supplement 1 and by other supplements issued or that may be issued thereto shall be prepared and a copy thereof shall be forwarded by mail to the president of the company to be charged therewith, as provided in said circular, as notice of the making or ordering of such addition, betterment, road extension, equipment, etc., required by said agreement; and such copy should be so forwarded before the beginning of the work or the acquisition of the property except in cases of emergency or other cases where the delay incident to the preparation and forwarding of such requisitions will be detrimental to the government, the service, or the company; and in all such exceptional cases the requisitions shall be forwarded as soon after the beginning of the work as reasonably practicable. No work involving a charge to capital account of \$1000 or more shall be contracted for or commenced unless it be authorized by the regional director except in cases of emergency; and no work involving a charge to capital account in excess of \$10,000 shall be contracted for or commenced unless it be authorized by the director of the Division of Capital Expenditures except in cases of emergency and in other cases where the delay incident to awaiting such authority on the usual form would be detrimental, in which latter cases preliminary

authority should be obtained by telegraph whenever practicable.

### Monthly Report of Capital Expenditures

The monthly report of authorizations and expenditures in connection with work chargeable to capital account for all Class I railroads as of November 10, 1918, prepared by Robert S. Lovett, director, Division of Capital Expenditures, shows that a total of \$403,864,950 was spent from January 1, to September 30, chargeable to capital account, and \$35,483,125 chargeable to operating expenses.

Of this amount, \$173,716,897 was charged to capital

account for additions and betterments, \$216,186,206 for equipment, and \$13,961,847 for construction of extensions, branches, etc. The total expenditures on capital account represents 34.3 per cent of the amount specifically authorized during the calendar year 1918.

A total of \$433,731,488 was included in the 1918 budget for additions and betterments, and \$52,825,757 had been added to the budget up to November 10, 1918, for the same purposes. For equipment, \$486,979,925 was included in the 1918 budget, and \$6,580,113 has been added since. For additions and betterments, \$121,099,793 had been specifically authorized up to November 10, chargeable to operating ex-

### AUTHORIZATIONS AND EXPENDITURES IN CONNECTION WITH WORK CHARGEABLE TO CAPITAL ACCOUNT AS OF NOVEMBER 10, 1918—CLASS I RAILROADS

Class of work (1)	1918 budget (2)	Additions to budget (3)	Work specifically authorized on D. C. E. forms 1, 2, 3 and 4, to November 10, 1918 Chargeable to—		Expenditures from January 1, 1918, to September 30, 1918 Charged to—		Unexpended balance Chargeable to—	
			Operating expenses (4)	Capital account (5)	Operating expenses (6)	Capital account (7)	Operating expenses (8)	Capital account (9)
ADDITIONS AND BETTERMENTS (Excluding Equipment)								
1 Widening cuts and fills, filling trestles, etc...	\$5,097,989	\$864,633	\$3,067,061	\$7,101,168	\$996,780	\$3,250,776	\$2,070,281	\$3,850,392
2 Ballasting .....	9,379,271	329,776	3,275,271	10,521,021	1,223,915	3,463,873	2,051,356	7,057,148
3 Rails and other track material .....	31,365,483	1,411,428	46,056,163	31,553,047	8,441,692	11,574,965	37,614,471	19,978,082
4 Bridges, trestles, and culverts .....	38,185,921	1,512,709	24,232,283	38,879,214	7,771,538	17,560,499	16,460,745	21,318,715
5 Tunnel and subway im- provements .....	2,185,242	94,083	863,220	4,008,516	515,724	701,773	347,496	3,306,743
6 Track elevations or de- pressions .....	4,112,536	323,517	1,676,752	13,423,050	312,950	2,134,334	1,363,802	11,288,716
7 Elimination of grade crossings .....	7,438,957	372,768	1,183,995	11,966,544	318,830	2,842,244	865,165	9,124,300
8 Grade crossings and crossing signals .....	631,082	69,316	165,667	1,439,032	83,142	823,820	82,525	615,212
9 Additional main tracks..	44,574,583	3,533,884	5,780,288	57,914,301	1,513,549	21,669,185	4,266,739	36,245,116
10 Additional yard tracks, sidings and industry tracks .....	97,199,114	14,369,943	9,281,505	114,841,142	2,092,494	39,128,671	7,189,011	75,712,471
11 Changes of grade or alignment .....	6,359,027	318,988	2,906,950	8,780,638	606,108	2,621,982	2,300,842	6,158,656
12 Signals and interlocking plants .....	10,962,462	1,666,063	2,420,807	13,800,195	629,301	4,746,873	1,791,506	9,053,322
13 Telegraph and telephone lines .....	5,129,149	466,831	745,318	5,520,453	406,890	2,046,069	338,428	3,474,384
14 Roadway machinery and tools .....	955,857	280,660	84,649	1,696,214	15,091	1,064,181	69,558	632,033
15 Section houses and other roadway buildings....	1,306,847	314,181	208,850	2,786,560	85,431	1,846,772	123,419	939,788
16 Fences and snowsheds..	817,655	107,378	452,329	2,143,709	173,401	727,926	278,928	1,415,783
17 Freight and passenger stations, office buildings	20,138,359	2,908,471	3,808,314	29,245,446	986,534	14,050,643	2,821,780	15,194,803
18 Hotels and restaurants..	199,282	263,112	27,091	679,177	2,008	220,430	25,083	458,747
19 Fuel stations and appar- tenances .....	6,090,558	1,650,249	1,109,456	7,756,753	320,188	2,590,363	789,268	5,166,390
20 Water stations and appar- tenances .....	13,430,047	1,706,624	1,907,836	10,672,695	573,852	4,281,751	1,333,984	6,390,944
21 Shop buildings, engine- houses and appar- tenances .....	62,694,927	9,256,573	6,465,459	52,772,474	1,730,632	15,698,759	4,734,827	37,073,715
22 Shop machinery and tools	9,142,488	4,636,668	1,325,637	20,172,327	307,501	5,467,487	1,018,136	14,704,840
23 Electric power plants, substations, etc. ....	10,781,347	2,455,969	2,072,696	20,912,341	321,253	4,978,991	1,751,443	15,933,350
24 Wharves and docks.....	3,236,167	2,666,420	524,607	4,891,347	276,433	644,677	248,174	4,246,670
25 Coal and ore wharves...	7,024,937	307,073	661,002	5,416,026	284,012	3,077,488	376,990	2,338,538
26 Grain elevators and stor- age warehouses .....	2,914,202	118,296	437,163	2,668,523	81,321	1,972,361	355,842	696,162
27 Real estate .....	3,309,141	28,981	15,538	579,662	1,722	555,342	13,816	24,320
28 Assessments for public improvements .....	1,179,306	411,971	59,180	1,955,123	60,662	1,086,808	†1,482	868,315
34 All other improvements.	27,889,552	379,192	284,706	6,453,243	143,093	2,887,854	141,613	3,565,389
Total (excluding equipment) .....	\$433,731,488	\$52,825,757	\$121,099,793	\$490,549,941	\$30,276,047	\$173,716,897	\$90,823,746	\$316,833,044
EQUIPMENT								
35 Locomotives, steam....	\$196,926,868	.....	.....	\$116,650,975	.....	\$51,183,399	.....	\$65,467,576
Locomotives, steam, or- dered by R.R. Admin- istration .....	.....	.....	.....	76,873,355	.....	*23,957,762	.....	53,015,593
36 Locomotives, other....	.....	.....	.....	2,359,213	.....	1,684,932	.....	674,281
37 Freight-train cars.....	212,858,464	.....	.....	94,716,146	.....	66,404,773	.....	28,311,373
Freight-train cars, or- dered by R.R. Admin- istration .....	.....	.....	.....	289,460,000	.....	*44,490,812	.....	244,969,188
38 Passenger-train cars ...	28,459,830	155,337	.....	12,417,401	.....	8,836,325	.....	3,581,076
39 Work equipment .....	6,538,810	1,771,745	.....	7,016,124	.....	1,537,526	.....	5,478,598
40 Motor car and trailers..	557,039	20,200	.....	587,558	.....	.....	.....	529,011
41 Floating equipment ....	5,323,337	412,342	.....	5,129,889	.....	632,523	.....	4,497,366
42 Miscellaneous equipment	507,923	84,724	.....	603,677	.....	221,932	.....	381,745
43 Improvements to exist- ing equipment .....	35,807,654	4,135,765	\$19,276,960	40,421,567	\$5,213,654	17,277,675	\$14,063,306	23,143,892
Total equipment....	\$486,979,925	\$6,580,113	\$19,276,960	\$646,235,905	\$5,213,654	\$216,186,206	\$14,063,306	\$430,049,699
44 Construction of exten- sions, branches and other lines.....	\$20,330,489	\$2,066,072	\$23,836	\$39,063,037	Cr. \$6,576	\$13,961,847	\$30,412	\$25,101,190
Total, all work.....	\$941,041,902	\$61,471,942	\$140,400,589	\$1,175,848,883	\$35,483,125	\$403,864,950	\$104,917,464	\$771,983,933

\* Expenditures to date.

† Expenditure in excess of authorization.



penses, and \$490,549,941 had been specifically authorized chargeable to capital account. For equipment, \$19,276,960 had been specifically authorized up to November 10, 1918, chargeable to operating expenses, and \$646,235,905 had been specifically authorized chargeable to capital account. The detailed report is given on the opposite page.

### Export Traffic

Director General McAdoo has announced a report from the Exports Control Committee for the month of October showing that arrivals of carload export freight at North Atlantic ports, (inclusive of bulk grain and coal), during the month totaled 45,210 cars, while deliveries were 42,655 cars, resulting in an increase of freight on hand, principally due to recent arrivals of United States government freight. The situation was the same in South Atlantic and Gulf ports, there being a slight increase at those ports. Arrangements have been made for a proper distribution of ocean tonnage to take care of this movement.

The estimated tonnage of export freight, including government freight, but exclusive of bulk grain and coal, handled during the month of October, compared with October export tonnage of previous years, is as follows:

With October, 1913.....	177.5% increase
With October, 1914.....	166.4% increase
With October, 1915.....	70.0% increase
With October, 1916.....	27.1% increase
With October, 1917.....	57.2% increase

The average daily delivery of cars of export freight at North Atlantic ports, April to October, 1918, inclusive, was as follows:

Port	April	May	June	July	Aug.	Sept.	Oct.
Boston .....	100	98	76	92	64	26	88
New York .....	680	814	845	932	741	712	1,029
Philadelphia .....	105	184	123	128	154	147	160
Baltimore .....	124	122	140	156	105	109	113
Newport News .....	24	106	104	103	76	147	145
Norfolk .....	22	24	63	69	92	107	112
Total .....	1,055	1,348	1,351	1,480	1,232	1,248	1,647

There was a decided increase during the month of October due to the rapidly increasing volume of freight for account of the government.

Government freight on hand at all North Atlantic ports on railroad operated terminals, as of November 5, was as follows:

Army .....	4,540 cars
Navy .....	54 cars
Total .....	4,594 cars

The total arrivals for the week ending November 5, inclusive, were:

Army .....	6,999 cars
Navy .....	63 cars
Total .....	7,062 cars

Over 4,000 cars for the government were under load at New York at one period during the first week in November. There is said to be ample storage space at the seaboard and the closest co-operation is being given by the War department and the Navy Department in the matter of prompt disposition after arrival. To show the enormous increase in the movement, the deliveries to all North Atlantic ports during September were about 13,000 cars, while for October they were over 20,000.

The provision program for account of the French government calls for the movement of 14,000 tons via New York and 1,000 tons via Boston; while the program of the Italian government calls for 40,000 tons via New York, during the month of November. Provisions on hand as of November 7 amounted to 176 cars, of which 56 cars are for account of the Commission for relief in Belgium. Frozen beef on hand as of November 7 amounted to 60 cars. Permits covering approximately 1,000 cars, or 15,000 tons, were issued during one week by the North Atlantic committee.

### Railroad Agents to Cash Liberty Bond Coupons

P. S. & A. Circular No. 46 provides that effective at once, local freight and ticket agents, including agents of consolidated ticket offices, are authorized to cash coupons of Liberty Bonds when such coupons are due and payable. They should be considered as cash and so remitted, under proper safeguards, to the federal treasurer or to the bank where deposits are ordinarily made. Federal treasurers and federal auditors shall issue such instructions to agents under their jurisdiction as may be necessary to make the foregoing provisions operative at once.

### Standard Appliances Committee Meeting Postponed

The meeting of the Committee on Standard Appliances for Cars and Locomotives, called to be held at Washington on November 19, was postponed until December 3.

### Increased Savings in Car Mileage Through Rerouting

THE DIVERSION OF TRAFFIC to direct routes by lines in the Northwestern region is resulting in larger savings in car mileage every month. Instructions issued shortly after the railroads were placed under federal control soon caused the rerouting of a considerable amount of traffic, but it was necessary for each line to study the possibilities of the policy carefully before extensive diversions of traffic could be made. The steady improvement in the results achieved with increased experience under the rerouting plan is reflected in the statistics for the period from May 1 to September 30. In the months of May and June 4,441 carloads were rerouted in the Northwestern region, resulting in a total reduction in haul of 850,860 car miles. In July, 6,252 carloads were rerouted with a reduction in haul of 680,952 car miles; in August, 10,807 carloads were rerouted with a saving in car mileage of 1,147,457, while in September, the records show 13,441 cars rerouted and a saving in haul of 1,375,186 car miles.

These statistics are no real measure of what has been accomplished in the interests of economical routing, as they only indicate the number of carloads rerouted by the carriers and do not include shipments which are now being properly routed by the shipper as the result of the campaign to that end carried on by the railroads. In fact, the principal aim of the Railroad Administration has been to induce the shipper originally to name the most economical route, thereby eliminating the necessity for rerouting by railroad officers.

There are, of course, no records of the savings in car miles, resulting directly from improved routing by shippers. The large economies effected in August and September are therefore not fully representative of what has actually been achieved. They indicate only the savings attained through the perfected arrangements of the railroads for correcting the routing of shipments in transit.

From the first special railroad officers and committees have been delegated to execute diversions at various terminals and junction points in a region. On the individual railroad organizations federal managers are now held responsible for the correct routing of the business which they originate and likewise are expected to report any traffic handled by other railroads which could have been handled to better advantage by the lines under their jurisdiction. Despite the close attention given the problem for some months past, railroad officers continue to uncover business which can be routed more economically. In this connection it should be pointed out that the short line is not always the economical route. Other conditions which must be considered include grades, curves, the condition of connections

with other roads, the weight of rails, the absence of congestion, etc.

Minnesota Transfer, Minn., has been foremost among the terminals of the region in rerouting work. From May 1 to September 30, 9,570 carloads were diverted to new routes, with a reduction in haul of 1,189,466 car miles. In the Chicago switching district, between June 1 and September 30, 1,939 cars of westbound business were rerouted with a reduction in haul of 245,313 car miles.

A special effort has been made to divert eastbound traffic to Lake Michigan car ferry lines, not only to effect a reduction in loaded car mileage, but to avoid the use of the Chicago terminals. To this end the territory in Wisconsin and the upper peninsula of Michigan has been zoned and instructions have been issued to use the routes across Lake Michigan in preference to the routes through Chicago. Additional traffic necessary to give the car ferry lines full tonnage eastbound is secured by diverting traffic to these routes at Minnesota Transfer and other points. Since the inauguration of the plan to divert traffic across the lake, 6,551 cars have been rerouted over the ferry lines with a saving in car mileage of 587,809.

Since the railroads in the Northwestern region first undertook to divert traffic 34,941 carloads have been rerouted with the total reduction in haul of 4,054,455 car miles, or an average reduction in haul per car of 113 car miles. The details are given in the following table:

#### CARLOAD FREIGHT REDUCED BY LINES IN THE NORTHWESTERN REGION

	Total Carloads Rerouted	Reduction in Haul (Car Miles)
At Minnesota Transfer, Minn., by joint agent for all lines, May to September.....	9,570	1,189,466
By agents in the Chicago Switching District, westbound traffic only—June to September.....	1,939	245,313
Eastbound traffic diverted to Lake Michigan car ferry lines—for period ending September 30, 1918, by—		
C. & N. W., at Green Bay, Wis.....	759	65,828
C. & N. W., at Milwaukee, Wis.....	876	94,092
C. & N. W., at Menominee, Mich.....	521	41,268
C. & N. W., at Oconto, Wis.....	167	14,035
C. & N. W., at Antigo, Wis.....	104	13,228
C., M. & St. P., at Milwaukee, Wis.....	2,560	150,589
C., M. & St. P., at Menominee, Mich.....	532	70,632
M., St. P. & S. S. M., at Stevens Point, Wis.....	413	68,605
M., St. P. & S. S. M., at Minneapolis, Minn.....	513	70,254
M., St. P. & S. S. M., at Manistique, Mich.....	106	9,278
Total, 6,551 cars; 587,809 car miles.		
By—		
C. & N. W.—May to September.....	1,705	136,286
D., M. & N.—July to September.....	57	4,934
M. & St. L.—June to September.....	2,245	184,777
C., M. & St. P.—August to September.....	797	92,764
M., St. P. & S. S. M.—June to September.....	1,053	185,016
O. W., R. R. & N.—May to September.....	1,623	618,418
Nor. Pacific—July to September.....	3,375	492,721
D. & I. R.—July to September.....	260	16,895
C. G. W.—July to September.....	248	25,483
C., St. P., M. & O.—August to September.....	4,387	124,941
Ft. D., D. M. & S.—August to September.....	207	18,654
Gt. Nor.—August to September.....	573	85,426
S. P. & S.—August to September.....	62	14,170
Sou. Pac. Lines in Ore.—August to September.....	30	11,503
D. S. S. & A.—July to September.....	259	19,879
Total.....	34,941	4,054,455

#### The Consolidation of L. C. L. Merchandise in Chicago

One of the most important features of the rerouting plan is the consolidation of l. c. l. freight originating, and transferred, in the Chicago switching district, over certain lines for specific destinations, thereby eliminating intra-terminal switching. For example, under the old plan merchandise might arrive at Kensington Transfer on the Michigan Central and be consigned to St. Paul, Minn., in separate lots, over the Chicago & North Western, the Chicago, Milwaukee & St. Paul, the Chicago Great Western and the Chicago, Burlington & Quincy. This freight would have to be moved to the

individual freight houses of these lines in the Chicago switching district either by trap or ferry car, by dray or via the Illinois tunnel system. Under the present arrangement, merchandise for the same destination is consolidated into one car and routed over one line. The economies resulting include (1) a saving in freight house expense due to the fact that tonnage is handled only once at Chicago, whereas it was formerly handled twice; (2) a reduction in car days as a result of eliminating the use of cars for the transfer of tonnage from the inbound line to the outbound line; (3) a reduction in payments for transferring freight to connecting lines, which come out of the carriers' revenues; (4) better service and a diminution of claims.

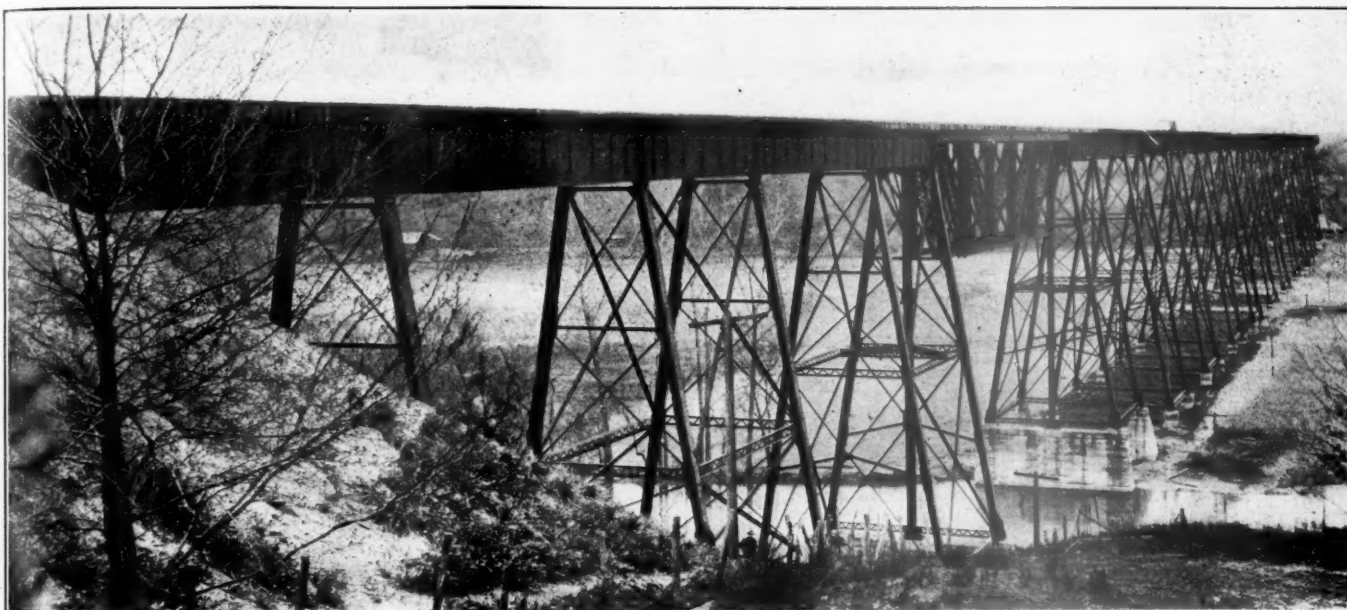
The table shows the number of carloads of l. c. l. freight consolidated since the introduction of the plan:

THROUGH MERCHANDISE CARS LOADED AT TRANSFER STATIONS IN CHICAGO DISTRICT		Total Carloads	
Loaded at	Date, 1918	For Eastern Points	For Western Points
Chicago and Forrest Hill Transfer—B. & O.	July	91	...
	August	102	...
	September	110	...
	October	169	...
Chicago—C., B. & Q.....	August	34	...
	September	41	...
	October	63	...
Chicago—C. G. W.....	September	12	2
	October	2	1
Chicago—C. J.....	October	179	316
Chicago, Union St. Sta.—C., M. & St. P..	October	86	3
Chicago, 40th Street—C. & N. W.....	August	357	...
	September	397	...
	October	555	...
Chicago—C., R. I. & P.....	August	16	1
	September	43	...
	October	45	...
Fordham Transfer, Chicago—Ill. Central..	October	6	17
Kensington Transfer—M. C.....	July	...	143
	August	...	218
	September	...	268
	October	...	276
Englewood Transfer—N. Y. C.....	July	...	50
	August	...	149
	September	...	163
	October	...	192
Stony Island Transfer—N. Y. C. & St. L..	July	...	332
	August	...	256
	September	...	182
	October	...	114
Chicago—Wabash .....	September	...	12
	October	...	11
Total.....		1,836	3,178



One of the Light Locomotives Used by the 12th Railroad Engineers in France





*Elevation of the Viaduct as Seen from the North End with Reinforcement in Place*

## Strengthening a Long Steel Viaduct on the C. & E. I.

### Introduction of Heavier Power Necessitated New Center Girders and Reinforcing of Columns

**T**HE PURCHASE OF HEAVIER POWER by the Chicago & Eastern Illinois created a problem for the engineering department of that road because of the inadequacy of two bridges to carry new locomotives. In consequence, seven Santa Fe-type engines weighing 377,300 lbs. and 25 Mikado

by Consolidation locomotives weighing 190,000 lbs. One of these bridges is over the Okaw river, about three miles from Findlay, Ill., on the Chicago-St. Louis main line of this road, while the other is over the Kaskaskia river at Shelbyville, Ill., on the line extending south from the main line at Findlay into southern Illinois. Thus the structures introduced a serious obstacle in the coal route of this road from the southern Illinois fields.

The Okaw river structure was a wrought-iron viaduct and the one over the Kaskaskia river is a steel viaduct. Each was 1,400 feet in length, the former being built in 1892 and the latter in 1896. After a study of the situation it was concluded to replace the main line bridge by a concrete arch structure providing for two tracks, thereby permitting the completion of double track as far as Findlay. In the case of the bridge at Shelbyville, on the other hand, it was deemed inadvisable to resort to renewal at this time, in view of the fact that it was found possible to introduce reinforcing that would bring the capacity of the structure up to an equivalent of Cooper's E-55 loading.

This viaduct consists of 14 towers and two rocker bents of varying heights, carrying 35-ft. tower spans, 15 clear spans of 50 feet, and one clear span of 35 feet, in addition to a 125-ft. deck truss span over the channel of the river. The bridge was designed for a loading equivalent to Cooper's E-35 or E-40. The condition of the structure was good except that the cast pedestals under the columns were of a faulty design and had developed cracks in a great many cases.

The reinforcing included the addition of a center girder in all of the girder spans, as well as a center truss in the truss span, reinforcement of the columns of all bents and the addition of new center columns in the bents carrying the truss span. The erection of the new center girders, with the exception of those in the towers adjoining the truss span, was deferred until girders could be released from the old viaduct at Okaw river following the completion of the new structure



**Close View of the Channel Span Showing a Portion of the New Center Truss**

locomotives already in service weighing 300,000 lbs., were prevented from operating in the districts containing the two bridges, thus restricting the train-loading to that handled

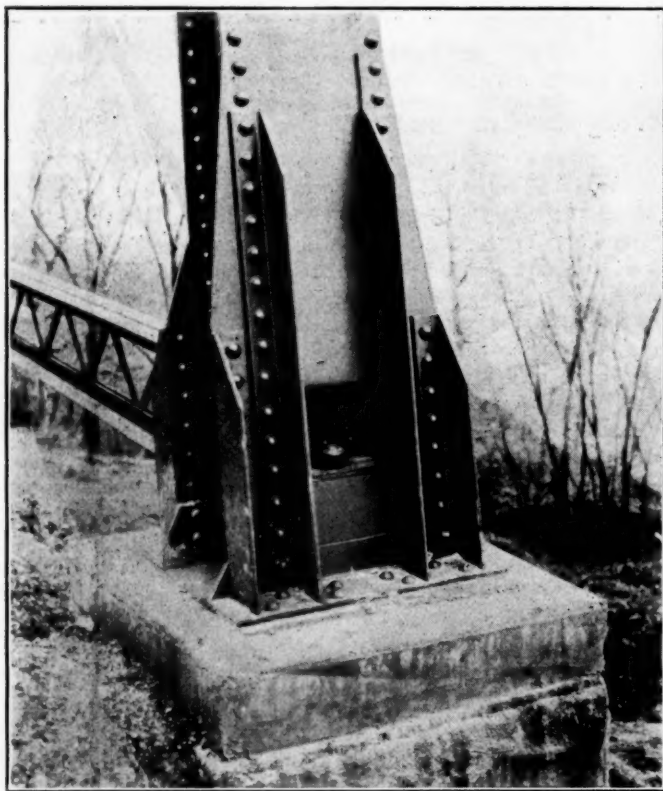
at that point. All of the other work was started last fall and completed in the spring of this year.

The old columns were of the Z-bar and plate section consisting of four 5-in. by 3-in. Z-bars riveted to a 12-in. plate. These were reinforced by riveting cover plates to the outstanding legs of the Z-bars on both sides of the columns and by increasing the strength and area of the column bases by means of plates and angles as shown in the drawing.

The reinforcing plates for the columns were punched in the shop, but for every shop hole in the plate there was a corresponding hole to be drilled in the field, or about 36,000 15/16-in. diameter holes in all. The plates were clamped into position against the columns so that they could be used as templates for punching the holes in the flanges of the Z-bars with a screw-operated punch worked by hand. Air-operated riveters were used for all of the riveting, and air-operated drills might have been used to advantage for the field holes but for the lack of high-speed steel for drills. Two men working with each punch could make about 300 holes per day. Only a small gang, averaging about 12 men, was employed on this work, and as the drilling was the slowest operation on the work practically the entire crew was employed on the punching until this had been completed on about 12 of the columns, when all the bolts available for temporary connections were used up. The riveting was done with a penumatic hammer supplied with air by a pipe line

considerably larger area than the old casting on which it rests, and this additional area was made of use in carrying the load by putting a new reinforced concrete cap on the masonry pedestal to enclose the old casting and come up even with the top of the new sole plate.

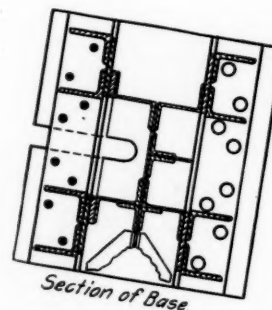
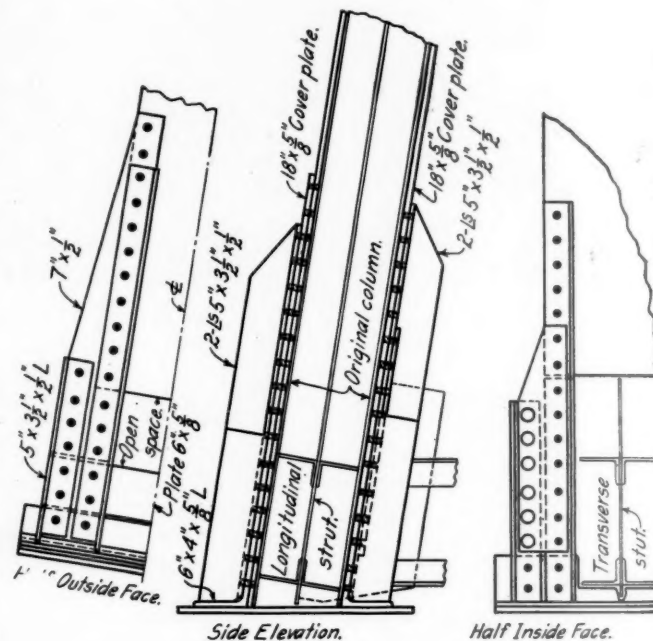
The introduction of the center truss and new center girders in the adjoining panels was a more complicated job because the regular train movements interfered more seriously with the work. The new truss is a riveted span of the same depth as the old ones, which are pin connected. The distribution of the load to the new truss is obtained by use of heavy



Reinforced Column Base

carried across the entire bridge. The reinforcing plates on the columns were milled for direct bearing at all splices. Old splice plates were removed and replaced on top of the reinforcing plates.

The assembling of the base reinforcement was a more complicated operation. Because of the presence of anchor bolts and bottom struts the new material had to be applied almost piecemeal. The sole plate was inserted between the base of the column and the bearing casting by jacking up the column and sliding it underneath, this plate being slotted to clear the single anchor bolt. This new column base has a



Method of Reinforcing the Column Bases.

cross frames, the connections of which were not riveted until the new girder was swung. The new steel was supported from the old by means of timbers bolted to the bottom chords of the old trusses and was placed by a derrick car from the deck, removing enough ties temporarily to clear the members being handled. The work was begun at one end of the span and, in general, proceeded in the regular order, putting in a section of the bottom chord first, followed by two web members and finishing with a section of the top chord. The time occupied in one of these operations, including the removal and the restoring of the deck, was about five hours. By co-operation with the despatcher this much time was made available without serious delays to trains; in fact, the longest delay to any train during the work was 20 minutes. This portion of the repair work on the structure was in progress from September, 1917, to March, 1918, the erection of the truss and the two adjoining girders occupying about two months.



Following the completion of the Okaw river bridge, the old viaduct was removed and work started on the reuse of the old girders of this structure as center girders and cross-girders in the viaduct at Shelbyville. The girders available were 60 ft. long and 5 ft. deep, while they were reused in spans of 35 ft. and 50 ft. between side girders having a depth of 6 ft. Accordingly the second-hand girders were cut to the required lengths, the portions remaining being used to make cross-girders, which serve to carry the end reactions of the center girders to the side girders. The center girders frame into the webs of the cross girders and the latter frame into the webs of the side girders as close as practicable to their bearings on the columns.

Owing to the fact that the new girders are shallower than the old ones, the introduction of the former did not interfere

with the top laterals. The ties are supported on the center girders by means of timber shims placed on their top flanges. There was no bottom lateral system so the new iron could be placed readily from underneath by a derrick car standing on the track. The new steel required for this work consists only of new cross frames, connection angles, etc.

All of this reinforcement was designed and installed under the direction of J. E. Bernhardt, bridge engineer of the Chicago & Eastern Illinois, and under the general direction of L. C. Hartley, chief engineer. J. A. Dunn was the resident engineer. The Strobel Steel Construction Company of Chicago had the contract for the first division of the work, and the Kelly-Atkinson Construction Company, Chicago, for the second part involving the use of the old girders from the Okaw river bridge.

## Orders Issued By the Regional Directors

### List of Old Locomotives Requested; Suggestions Governing the Handling and Issuance of Embargoes

**INTERCHANGE OF FREE TRANSPORTATION WITH SHORT LINES, NOT UNDER FEDERAL CONTROL.**—Order 1600-1-A252 of the Eastern regional director states that for the balance of the year trip passes can be exchanged with short lines not under federal control on the same basis as prior to government control.

**Age of Locomotives.**—The Eastern regional director in Order 5001-1-A246 asks for a list of locomotives over 25 years old which are not good for efficient service. Also a list of locomotives over 20 years and less than 25 years old, the type or condition of which is such that they are not contributing to the efficiency of operation. Locomotives in either list which have been heretofore reported to the Regional Purchasing Committee for sale should be marked with an X.

**Railroads Under Federal Control.**—Order 1500-1-4-163A 245 of the Eastern regional director states that the Director, Division of Traffic, has advised that the following railroads should not have appeared in the Division of Traffic Circular No. 5, dated October 10, 1918, and will be eliminated in the first supplement: Leetonia Railway, Waynesburg & Washington Railroad, Rapid Railway, Thomas Railroad and Hoboken Railroad, Warehouse & Steamship Company. The New York and Hartford Transportation Company, appearing in the same circular, should read, Hartford and New York Transportation Company.

**Use of Director General's Name on Menus, Folders, Etc.**—Order 1500-1-3-19A242 of the Eastern regional director states that at the present time notices of the director general appearing on menus, folders, etc., show in many cases the director general's name and title at the top. As his name and title appear as signature to the notices, this is an undesirable duplication and should be eliminated. Since menus are not official publications in the sense that tariffs and time tables are, they should show only "United States Railroad Administration" and name of road concerned, omitting the director general's name entirely, except as signature to any of his official notices which are authorized to be printed on menus.

**Form OS-4, Distribution of Locomotive Hours.**—Order 1801-22A249 of the Eastern regional director states that the following instructions have been received from W. J. Cunningham, Manager, Operating Statistics Section, regarding Items 6 and 7 on Form OS-4:

In the case of locomotives belonging to one railroad which are sent to the shops of another railroad for repairs, the hours of such locomotives should be taken into account and reported by the owning road on Form

OS-4, under Items 6 and 7, "Unserviceable Locomotives"—awaiting or undergoing repairs. The hours of such locomotives should not be taken into account by the road which makes the repairs.

**Statement of Unsettled Freight Claims.**—Order 600-19A 247 of the Eastern regional director requests that the freight claim agents send to J. H. Howard, Manager, Claims and Property Protection Section, Southern Railway Building, Washington, D. C., a statement of all unsettled freight claims for damage by freezing during the winter of 1917-1918. The statement should be prepared by months, for November and December, 1917, and January, February and March, 1918, and then a recapitulation for the five months showing the total number of claims and the total amount of money involved. The date of movement of the freight will determine the month in which to include it.

**Form O.S. 7, Condensed Income Accounts.**—Order 1801-22A233 of the Eastern regional director states that the question has arisen as to what should be done with certain items of income not provided for specifically on Form O.S. 7, Condensed Income Account. With the approval of the Division of Public Service and Accounting, it is ruled that all items of income properly chargeable or creditable to the income account of the director general, not otherwise provided for in the Condensed Income Account, shall, for the purposes of the Condensed Income Account, only, be included net in an entry opposite a new item to be numbered Item 23-A, and called "Miscellaneous Income (Net)." This will take care of such items as income from unfunded securities and accounts, interest on bank deposits, etc.

**Repairs to Locomotives.**—The Southwestern regional director announces that the practice of railroads repairing locomotives at their home shops, which prevailed during corporate control, will be continued as far as practicable. When the facilities are insufficient and it is desired to move engines for repairs to shops on another line under the same federal manager's jurisdiction or shops under authority of another federal manager, the approval of the regional director must be previously obtained.

**Issuance of Free Transportation.**—Supplement 1 to Order 109 Southwestern regional director—same as last paragraph abstract of Order 1600-1A215 of Eastern regional director. See page 867, *Railway Age*, November 15.

**Grain Embargo—Primary Markets.**—In Supplement 6 to Circular 34, the Northwestern regional director states that the Food Administration anticipates a heavy movement of oats from Chicago and Milwaukee for war department and

Allied account. To secure the prompt movement into these markets agents at country stations should be directed to telegraph the Grain Control Committees all applications filed with them for permits to ship oats to those cities. All permits issued will be transmitted by wire to the loading station.

*Handling and Issuance of Embargoes.*—The Southern regional director, in Circular Letter No. 405, calls attention to the large number of embargoes which have been issued which might have been avoided by a more judicious method of disposing of the immediate problem confronting the issuing line.

The Car Service Section has issued instructions outlining a method of imposing and handling embargoes, and it is not the purpose of this circular to suggest any modification of those instructions. However, the embargo is being used for the purpose of correcting local and temporary congestions or delays, and it is such action that is causing criticism. It is of prime importance, before imposing an embargo, that the road issuing should know positively that the conditions fully warrant the action taken and that other methods will not serve.

Frequently, embargoes are issued against consignees when a different handling of the situation would render promulgation of a formal embargo unnecessary. For instance, when an individual permits an accumulation of coal, the superintendent or other proper official should communicate with the Fuel Administration and ask that the coal be reconsigned or delivered to some other consignee, or be diverted to the road's own use; in this way, a particular accumulation can be gotten rid of more quickly and an embargo avoided. Also, the superintendent should judge of the consignee's situation, and if necessary telegraph the mines to stop loading to that particular firm until it is in position to resume prompt receipt and unloading. Similarly, accumulations of freight from local territory, resulting in a local or individual congestion, may be overcome by having the agent where the condition exists, through the superintendent, correct the trouble by a judicious placing of equipment at the loading point, or for a few days equipment might be refused altogether by a "stop order." Such a method will correct an unduly heavy flow of cotton to a compress, or seed to an oil mill, and the like.

As far as may be possible, embargoes against l.c.l. freight particularly should be avoided, for such immediately throw an unduly heavy burden upon the express company in handling freight in addition to normal express matter. In many cases, l.c.l. congestions can be lessened by arranging for merchandise cars to temporarily break bulk at other than a congested place, or by having the originating point accumulate freight intended for transfer at the congested point into way cars, to be loaded into overhead way cars. Accumulations of merchandise at stations in the cities and larger towns for local delivery ought to be removed by "campaign" methods among consignees, securing the co-operation of the commercial clubs and local city officials, thus obviating the necessity of an embargo.

Numbers of embargoes are issued for short periods—some as short as 24 hours—which have created the impression that the issuance is not properly supervised, being left largely to the discretion of subordinate officials. Chief operating officials should be charged with personally watching the imposition of each and every embargo, and be prepared to justify it as being the only means left the road for controlling the particular situation dealt with. There is no doubt but that a more careful study of conditions in advance of instructing an embargo and the careful scrutiny of embargoes as they are planned to be issued will materially curtail the number of them.

Roads are asked to inaugurate such a system of supervision as will eliminate all unnecessary embargoes, and to

arrange with the proper official that when instructions to issue an embargo are given the regional director be given at the same time a brief statement of the embargo and the reasons for it.

## Load Assumption in the Design of Concrete Floor Slabs

BULLETIN No. 210 of the American Railway Engineering Association contains a monograph by George H. Tinker, bridge engineer, New York, Chicago & St. Louis, Cleveland, Ohio, which is an analysis and compilation of information which he collected from bridge engineers of various railroads in this country on the practices followed in assuming the distribution of loads in the design of concrete floor slabs and flat top culverts. The questions asked in the questionnaire submitted to the bridge engineers were as follows:

- (1) In the designing of flat top culverts or reinforced concrete floor slabs, what is your practice in considering the distribution of axle loads—longitudinally, transversely and vertically?
- (2) In connection with the above, what impact allowance do you use?
- (3) Can you refer to any investigations or data bearing upon this subject?

Answers to this questionnaire were received from 33 different roads. The author prepared an analysis of these replies as given in the table on the opposite page and followed it with his explanation as follows:

### Explanations and Analysis

Under the head of "Distribution of axle loads, longitudinally," it will be noticed that 12 use "concentrated" loads and 6 "uniform" loads. These generally mean the same thing, *i. e.*, a moment taken from the moment table for concentrated loads or an equivalent load deduced from it. Combining these, it appears that 56 per cent use the moment table, 28 per cent distribute an axle load over five feet, 16 per cent over four, and three per cent over two feet.

Referring to the distribution transversely, it should be noted that all of those noted as 8 ft., 9 ft., 10 ft. or tie, indicate a uniform distribution for the length of the tie or slightly more, depending on whether the writer considers the distribution at the level of the base of rail or a few inches below the bottom of the tie. Those given as 12 ft., 13 ft., or 14 ft., are included with those specifying uniform distribution for the distance between tracks. From this it appears that 71 per cent distribute over the length of the ties, 23 per cent over the distance between tracks, and 6 per cent over a distance of five or six feet.

By "vertical" distribution is meant the lateral distribution at varying depths below the rail. Five each specify vertical, 6 in. per foot and 12 in. per foot, and four 24 per foot. Eleven others have been shown as vertical, as best indicating the distribution as shown by the context. Combining these, it appears that 44 per cent prefer a vertical distribution as against 56 per cent who prefer a lateral distribution varying from 3 in. per foot to 24 in. per foot. It should be noted that 24 in. per foot is a slope of 45 deg. at each end of the tie.

The impact requirements are various and intricate. Some of the salient points may be indicated as follows:

- 39 per cent use 50 per cent impact; 45 per cent use 50 per cent or less.
- 42 per cent use 100 per cent impact; 55 per cent use over 50 per cent.
- 60 per cent use constant impact for all depths of fill.
- 31 per cent use varying impact for different depths.
- 51 per cent use a simple percentage of impact.
- 45 per cent use a formula.



## SUMMARY OF REPLIES

Distribution of axle loads			Impact	Remarks
Longitudinally	Transversely	Vertically		
1			40% for 2' ballast; 10 ft. of fill for culverts	
2 Uniform	10 ft.	(Vertical)	Straight 50%	Floor slabs only.
3 Concentrated	10 ft.	(Vertical)	100%	
4 3 ft.	Tie	12" per ft.	75% for $d < 5$ ft.	
5 Concentrated	Entire width of slab.	Equal to increase of load.	25% for fl. slabs; full impact for culverts	Add 5 ft. of fill.
6 Uniform; 12,000 lb. per sq. ft.	8 ft. at base of rail.	6" per ft.	50%	
7 5 ft. for $d \geq 15'$	10 ft.	6" per ft.	50% for $d < 15$ ft.	
8 Concentrated	10 ft.	Vertical	Full impact, $S \frac{300}{300 + L}$	
9 3 ft.	8 ft.	Vertical	Full impact, $L \times \frac{300 + L}{L + D}$	Design for 3' fill up to depth at which fill = impact.
10 Uniform; 2,000 lb. per sq. ft. for culverts	Uniform	(Vertical)	No impact for culverts.	
11 Concentrated for floor slabs.	14 ft.	(Vertical)	50% of $S \frac{300 + L}{L}$	
Conc. for reinf. parallel with track.	9 to 13 ft.	(Vertical)	50% of $L \frac{300 + L}{L + D}$	
5 ft. for reinf. at angle with track.	9 ft.	(Vertical)	50% of $L \frac{300 + L}{L + D}$	
12 24" for $d \leq 24'$ ; Unif. for $d \geq 6'$	9 ft.	6" per ft.	50% for $d \leq 6'$ to zero for $d \geq 2 \times$ span	
13 5 ft.	6 ft. for $d = 2$ ft. to 16 ft. for $d = 10$ ft.	3" per ft. to 6" per ft.	50% for $d = 6'$ to zero for $d = 18'$	
14 Equiv. uniform load.	8 ft.	12" per ft.	Lower unit stresses.	Fill not less than 5 ft.
15 4 ft.	8 ft.	24" per ft.	Full impact, $S \frac{300 + L}{300}$	
16		Vertical	100% for $d < 5'$ to zero for $d = 20'$	
17 Concentrated	12 ft.	(Vertical)	Full impact, $S \frac{300 + L}{300}$	
18 Concentrated	8 ft.	24" per ft.	100%	
19 Uniform	8 ft.	(Vertical)	None	
20 5 ft.	8 ft.	Vertical	Full impact, $S \frac{300 + L}{100 - S}$	
21	Tie	60° from end of tie.	Full impact, $\frac{3}{100 - S}$	Min. formula.
22 Concentrated	9 ft.	(Vertical)	1/2 unit stress for L. L.	Max.
23 Concentrated	13 ft.	(Vertical)	Full impact	
24 5 ft.	10 ft.	12" per ft.	Full impact for min. fill to zero for $d = 10'$ ; $S \frac{300 + L}{300}$	
25 5 ft.	10 ft.	12" per ft.	50% for $d = 0$ to 0 for $d = 11'$	Arch effect assumed for $d > 10'$ ; uniform slab for all depths.
26 5 ft.	5 ft.	24" per ft.	Full impact for $d = 18'$ ; $S \frac{300 + L}{300}$ to 0 for $d = 12'$	
27 Concentrated			$D \times \frac{L}{L + D}$	
28 5 ft.	Tie (9 ft.)	6" per ft.	50%	
29 3 ft.	Tie (9 ft.)	2 × 15° for culverts; 24" per ft. for fl. slabs.	50%	
30 Concentrated	13 ft.	Vertical	Full impact, $S \frac{300 + L}{300}$	
31 5 ft.	9 ft.	(Vertical)	100%	
32			12 ft. of fill; zero for $d > 5$ ft.	
33 Concentrated	10 ft.	12" per ft.	50% for $d \leq 2'$ to zero for $d > 12'$	Arch effect assumed for $d > 12'$ . D. L. 500 lb. per sq. ft. Uniform slab for all depths.

## Regulations for Admitting Mexicans

A MEMORANDUM RECENTLY SUBMITTED to the secretary of labor jointly by the director general of the United States employment service and the commissioner general of immigration, contemplating the issuance of instructions for admitting Mexican laborers to the country, has been approved by the secretary and Commissioner General A. Caminetti has issued an order providing that immigration officers will attend to the admission of alien laborers, the procurement and recording of the necessary data regarding them, and eventually, will see to the return of the aliens.

Employment officers will attend to the distribution of admitted laborers, ascertaining first, of course, if and where such laborers are needed, and in every instance whether the

laborers are of the kind suited properly to fill the positions involved and that the wages offered are those prevailing in the vicinity; will see that laborers properly qualified are sent where a sufficient supply is not available and that none is sent to places where there is already a sufficiency of similar labor unemployed; will assist, in order to expedite the handling of business, in the procurement from prospective employers of the agreements required under departmental orders; and will co-operate with immigration officials in keeping track of laborers after they are admitted and in establishing and enforcing a follow-up system, to insure, as far as possible, the eventual return of those admitted.

The privilege of importing Mexican laborers under the departmental orders will not be extended to agents or agencies that operate on a fee basis.

## General News Department

The Railway Fire Protection Association will hold its meeting in Chicago (December 3, 4 and 5) at Hotel Sherman instead of at Congress Hall as heretofore announced.

An airplane carrying forty passengers flew over London, England, on Saturday, November 16, piloted by Clifford B. Prodger. The airplane passed over the city at an altitude of 6,000 ft.

Senator Cummins has introduced a bill, S. 5027, to withdraw the authority heretofore granted to the President and to other departments of the government relating to priorities in transportation and to restrictions upon the sale and distribution of commodities.

Two freight houses, the inbound and the outbound, of the Chicago & Alton, at East St. Louis, Ill., were almost entirely destroyed by fire on November 12. The conflagration started with an explosion in a section of one of the buildings containing some empty gasoline drums. Total estimated loss, including 11 freight cars, \$150,000.

The United War Work Campaign was the subject of a telegram sent last week by Director General McAdoo to the various railroad corporations expressing the hope that they might contribute to it as generously as possible; the railroad corporations had responded in fine fashion to the Fourth Liberty Loan and he hoped they would show the same degree of patriotism in this instance.

Five watchmen and a "special agent," all employees of the Missouri, Kansas & Texas and the St. Louis-San Francisco, were arrested at St. Louis on November 12, together with five other persons, alleged to be connected with extensive thefts with which the railroad employees were charged. The detectives say that goods already recovered or traced, in connection with the prosecution of these men, will amount to \$75,000 in value. Five tons of copper wire, all in one car, is one of the items mentioned.

The Russian Railway Service Corps, both officers and enlisted men, will have the same status and benefits as officers and enlisted men in the railway engineering organizations of the United States Army if Congress passes a bill which has been introduced by Senator Poindexter and referred to the Senate Committee on Military Affairs. This corps was enlisted and sent to Russia under special arrangement with the Russian government, which was to pay its expenses, and the members have not been considered as members of the United States Army.

The Priorities Division of the War Industries Board has announced the formal cancellation of outstanding priority ratings except on contracts for the Navy, the Emergency Fleet Corporation and the telegraph and telephone companies, effective November 22. The order does not, however, imply the cancellation of priority orders, directions and requests which are retained for the protection of those who have respected and observed them. Application for priority service may still be made in urgent cases and priorities have been recognized. It is declared to be in the public interest that all possible assistance be rendered toward stimulating the construction of railroad locomotives and the manufacture of other materials, equipment and supplies. Preference list number two and supplement and amendments are also cancelled. It is the intention to continue all maximum prices thus far established on commodities.

### Railway Club of Pittsburgh

As the date of the regular meeting of the Railway Club of Pittsburgh occurs Thanksgiving Day, the meeting is being held this week (Thursday).

### Coal Zoning System Saving Car Miles

Estimates made earlier in the fuel year, that approximately 160,000,000 car miles would be saved in the coal year through the operation of the zone system for the distribution of bituminous coal, are being fully realized, it is announced by the Fuel Administration.

This system has had a large share in bringing the nation's supply of bituminous coal to its present proportions, which, says the statement, will, with patriotic economy, be sufficient for the winter's requirements.

By this method of distribution the coal supply of all sections of the country is normally derived from mines relatively near, thus preventing abnormal and wasteful transportation movements. The latest figures show that 368,858,000 net tons of bituminous coal has been produced and delivered since April 1, about 60 per cent of which is affected by the zone system. Even more than the originally estimated 160,000,000 car miles will be saved in round-trips to and from the mines, the equivalent of a five per cent increase in the production.

### Sailing Day Plan in Northwestern Region

With a view to increasing the efficiency of cars and decreasing the cost of operation, R. H. Aishton, regional director of the northwestern region, has established a committee known as the L. C. L. and Sailing Day Plan Committee. Practically every important station in the Northwestern region has now in effect plans for starting cars to specified points on certain days, so that instead of cars going out with two or three tons, they are now moving on a regular daily, semi-weekly or tri-weekly service with full loads. The saving of cars amounts to over 20,000 per month. The carrying out of this plan has also reduced the amount of freight handled at transfer points to such an extent that it will soon be possible to eliminate some of the transfer stations entirely.

The claim departments report that the loss and damage to merchandise has been reduced quite materially in that at all of the main points in the region the freight has been consolidated on one, two or three lines, making through cars, whereas under the old system it was necessary to pass it through several transfer points before reaching its ultimate destination.

The operation of pick-up cars has also been regulated so that local freight trains are making mileage with loads instead of empties.

Innumerable letters have been received from shippers expressing favorable comment, particularly on the fact that schedules are now being maintained. The concentration at certain centers of freight destined to points in the East, making through cars to Buffalo, Cleveland, New York, etc., has eliminated largely the congestion that existed at Chicago and other gateways; has expedited the movement of freight, and reduced materially the embargoes.

This plan has been worked out in such a way that it will not interfere with the interests of the shipping public, although the saving in dollars and cents in the way of car mileage, extra time for crews, etc., is large. At Chicago with its innumerable receiving and transfer stations the inauguration of the sailing day plan was delegated to the terminal manager and on September 30, he was able to announce to the public that cars to certain points would move on certain days, naming the routes by which the freight would move; and shippers are gradually getting used to concentrating their freight for through cars moving on established schedules.

The records of a number of shipments selected at random show a saving of 24 hours from Chicago to many places in Iowa, Wisconsin and other states.



### Railway Revenues and Expenses for September

Net operating income of the railways in September, as reported by the Interstate Commerce Commission, continued to show an increase, although less in amount than was shown in the previous two months since the rate advances were put into effect, amounting to \$99,038,750, as compared with \$94,982,497 in September, 1917. Operating revenues increased \$129,000,000, while operating expenses increased \$126,000,000, and taxes (exclusive of war taxes) were slightly less than in 1917. For the first six months of the year there was a decrease in net operating income, in July there was an increase of \$45,000,000, in August an increase of \$26,000,000, and in September the increase was slightly over \$5,000,000.

For the nine months period the net operating income was \$518,656,323, as against \$730,414,706, a decrease of \$212,000,000, so that up to the end of September the Railroad Administration was still some \$200,000,000 short of the nine months' proportion of its guarantee, estimated at over \$900,000,000 for the year. Railway operating revenues for the nine months were \$3,541,343,402, an increase of \$570,000,000, while operating expenses were \$2,861,753,017, or \$779,000,000 greater than in 1917. Taxes show an increase of nearly \$8,000,000. The increase in revenues includes \$367,000,000 increase in freight, \$173,000,000 increase in passenger, and \$11,000,000 increase in express, while mail revenues fell off nearly \$5,000,000. The expenses include an increase of

#### RAILWAY REVENUES AND EXPENSES FOR SEPTEMBER

Item	UNITED STATES				EASTERN DISTRICT			
	Amount		Per mile of road operated		Amount		Per mile of road operated	
	1918	1917	1918	1917	1918	1917	1918	1917
1. Average number miles operated.....	232,397.53	232,709.07	.....	.....	59,537.01	59,538.13	.....	.....
<b>REVENUES:</b>								
2. Freight .....	\$341,058,242	\$242,174,017	\$1,468	\$1,041	\$152,859,702	\$107,585,003	\$2,567	\$1,807
3. Passenger .....	105,772,737	82,527,870	455	355	47,406,027	36,515,239	796	613
4. Mail .....	4,343,521	4,771,814	19	21	1,622,985	1,869,916	27	31
5. Express .....	13,731,911	9,402,030	59	40	6,619,624	4,464,749	111	75
6. All other transportation.....	11,382,528	9,856,985	49	42	6,714,190	5,421,522	113	91
7. Incidental .....	11,492,630	9,811,691	49	42	6,911,297	5,537,965	116	93
8. Joint facility—Cr.....	508,211	395,986	2	2	282,996	200,884	5	3
9. Joint facility—Dr.....	153,820	141,896	1	1	80,009	80,615	1	1
10. Railway operating revenues.....	488,135,960	358,798,497	2,100	1,542	222,336,812	161,514,663	3,734	2,712
<b>EXPENSES:</b>								
11. Maintenance of way and structures.....	59,962,827	40,658,262	258	175	26,424,554	17,828,262	444	299
12. Maintenance of equipment.....	117,967,295	58,375,169	508	251	53,998,100	27,530,068	907	462
13. Traffic .....	3,457,832	5,393,805	15	23	1,560,634	2,139,061	26	36
14. Transportation .....	176,977,007	129,430,372	762	556	85,036,621	63,260,401	1,428	1,063
15. Miscellaneous operations .....	3,429,153	3,067,763	15	13	1,702,487	1,456,209	29	24
16. General .....	9,171,051	8,112,884	39	35	4,030,195	3,484,571	68	59
17. Transportation for investment—Cr.....	360,275	721,574	2	3	55,343	60,873	1	1
18. Railway operating expenses.....	370,604,890	244,316,681	1,595	1,050	172,697,248	115,637,699	2,901	1,942
19. Net revenue from railway operations.....	117,531,070	114,481,816	505	492	49,639,564	45,876,964	833	770
20. Railway tax accruals (excluding "War Taxes")..	16,102,550	16,797,896	69	72	6,158,448	6,202,158	103	104
21. Uncollectible railway revenues.....	38,567	45,993	.....	.....	16,670	13,298	.....	.....
22. Railway operating income.....	101,389,953	97,637,927	436	420	43,464,446	39,661,508	730	666
23. Equipment rents .....	†928,386	†1,509,270	†4	†7	†1,003,457	†2,582,579	†17	†43
24. Joint facility rent (Dr. Bal.).....	1,422,817	1,146,160	6	5	728,791	609,396	12	10
25. Net of items 22, 23 and 24.....	99,038,750	94,982,497	426	408	41,732,198	36,469,533	701	613
26. Ratio of operating expenses to operating revs..%	75.92	68.09	.....	.....	77.67	71.60	.....	.....
<b>SOUTHERN DISTRICT</b>								
Item	Amount		Per mile of road operated		Amount		Per mile of road operated	
	1918	1917	1918	1917	1918	1917	1918	1917
1. Average number miles operated.....	42,782.92	42,856.57	.....	.....	130,077.60	130,314.37	.....	.....
<b>REVENUES:</b>								
2. Freight .....	\$52,809,802	\$35,800,581	\$1,234	\$835	\$135,388,738	\$98,788,433	\$1,041	\$758
3. Passenger .....	19,360,876	12,301,910	452	287	39,005,834	33,710,712	300	259
4. Mail .....	705,983	722,143	17	17	2,014,553	2,179,755	15	17
5. Express .....	1,900,456	1,087,214	44	25	5,211,831	3,850,067	40	29
6. All other transportation.....	799,832	787,530	19	19	3,868,506	3,647,933	30	28
7. Incidental .....	1,268,596	978,146	30	23	3,312,737	3,295,580	25	25
8. Joint facility—Cr.....	111,070	95,991	3	2	114,145	99,111	1	1
9. Joint facility—Dr.....	23,348	19,114	1	..	50,463	42,167	.....	.....
10. Railway operating revenues.....	76,933,267	51,754,410	1,798	1,208	188,865,881	145,529,424	1,452	1,117
<b>EXPENSES:</b>								
11. Maintenance of way and structures.....	9,558,313	6,208,649	223	145	23,979,960	16,621,351	184	128
12. Maintenance of equipment.....	18,449,981	9,432,337	431	220	45,519,214	21,412,764	350	164
13. Traffic .....	666,813	973,627	16	23	1,230,385	2,281,117	10	18
14. Transportation .....	26,531,160	17,323,644	620	404	65,409,226	48,846,327	503	375
15. Miscellaneous operations .....	328,889	267,212	8	6	1,397,777	1,344,342	11	10
16. General .....	1,434,576	1,192,110	34	28	3,706,280	3,436,203	28	26
17. Transportation for investment—Cr.....	75,268	143,054	2	3	229,664	517,647	2	4
18. Railway operating expenses.....	56,894,464	35,254,525	1,330	823	141,013,178	93,424,457	1,084	717
19. Net revenue from railway operations.....	20,038,803	16,499,885	468	385	47,852,703	52,104,967	368	400
20. Railway tax accruals (excluding "War Taxes")..	2,359,573	2,319,968	55	54	7,584,529	8,275,770	59	64
21. Uncollectible railway revenues.....	7,812	5,527	..	..	14,085	27,168	.....	.....
22. Railway operating income.....	17,671,418	14,174,390	413	331	40,254,089	43,802,029	309	336
23. Equipment rents .....	†118,401	1,194,903	†3	28	193,472	†121,594	2	†1
24. Joint facility rent (Dr. Bal.).....	269,210	175,604	6	4	424,816	361,160	3	3
25. Net of items 22, 23 and 24.....	17,283,807	15,193,689	404	355	40,022,745	43,319,275	308	332
26. Ratio of operating expenses to operating revs..%	73.95	68.12	.....	.....	74.66	64.20	.....	.....

†Debit item.

Note—The average railway operating income corresponding to item No. 22 above for the month of September in the three years 1914, 1915, 1916, included in the "test" period of three years ended June 30, 1917, was \$415 per mile of line for the United States.

\$115,000,000 in maintenance of way and structures, \$277,000,000 increase in maintenance of equipment, and \$380,000,000 increase in transportation. General expenses were \$11,000,000 greater, while traffic expenses were about \$10,000,000 less than in 1917. The figures for September follow:

### Engineering Education to Be Discussed with British Educational Mission

A joint meeting of the British Educational Mission to the United States and the Society for the Promotion of Engineering Education will be held at the Massachusetts Institute of Technology, Cambridge, Mass., December 6-7.

The topics to be discussed are:

"The Organization of Engineering Education in Great Britain and the United States." Discussion led by a member of the Mission representing Great Britain and Chas. S. Howe, President Case School of Applied Science, representing the United States.

"The Effect of the War on Engineering Education in Great Britain and the United States." Discussion led by a member of the Mission representing Great Britain and Dr. C. R. Mann, Massachusetts Institute of Technology, representing the United States.

"The Liberal Element in Engineering Education." Discussion led by a member of the Mission representing Great Britain and Professor George F. Swain, Harvard University, representing the United States.

### The National Railway Appliances Exhibit

The Board of Directors of the National Railway Appliances Association held a meeting on November 12, and allotted space for the exhibit to be held at the Coliseum in Chicago, on March 17 to 20, 1919, inclusive.

The exhibitors who are awarded space are listed below:

Adams & Westlake Company.  
Adams Motor Manufacturing Company.  
A. G. A. Railway Light & Signal Company.  
Air Reduction Sales Company.  
Ajax Rail Anchor Company.  
Alexander Milburn Company.  
American Abrasive Metal Company.  
American Hoist & Derrick Company.  
American Steel & Wire Company.  
The American Valve & Meter Company.  
The Anchor Company.  
Armco Iron Culvert & Flume Manufacturers' Association.  
Associated Manufacturers of Malleable Iron.  
The Austin Company.  
Balkwill Manganese Crossing Company.  
Benjamin Electric Manufacturing Company.  
Bethlehem Steel Company.  
The Buda Company.  
Burden Iron Company.  
Bryant Zinc Company.  
E. M. Camp.  
Carbic Manufacturing Company.  
Carnegie Steel Company.  
Cast Iron Pipe Association.  
Chicago Bridge & Iron Works.  
Chicago Flag & Decorating Company.  
Chicago Malleable Castings Company.  
Chicago Railway Signal & Supply Company.  
Chipman Chemical Engineering Company.  
Cleveland Railway Supply Company.  
Crerar, Adams & Co.  
Diamond State Fibre Company.  
Paul Dickinson, Inc.  
The Duff Manufacturing Company.  
Edison Storage Battery Company.  
Electric Storage Battery Company.  
Thos. A. Edison, Inc.  
Fairbanks, Morse & Co.  
Fairmont Gas Engine & Railway Motor Car Company.  
Federal Signal Company.  
The Frictionless Rail.  
General Electric Company.  
General Railway Signal Company.  
Wm. Graver Tank Works.  
Grip Nut Company.  
W. & L. E. Gurley.  
Hall Switch & Signal Company.  
Hegeman-Castle Corporation.  
Hatfield Rail Joint Manufacturing Company.  
Hayes Track Appliance Company.  
Hubbard & Company.  
Hazard Manufacturing Company.  
Ingersoll-Rand Company.

H. W. Johns-Manville Company.  
O. F. Jordan Company.  
Kalamazoo Railway Supply Company.  
Kaustine Company.  
Kelly-Derby Company.  
Kilbourne & Jacobs Manufacturing Company.  
Keystone Grinder Manufacturing Company.  
Kerite Insulated Wire & Cable Company.  
Lackawanna Steel Company.  
Layne & Bowler Company.  
Lipman Refrigerator Car & Manufacturing Company.  
Long, Chas. R., Jr.  
M. W. Supply Company.  
Macomber & Whyte Rope Company.  
MacRae's Blue Book Company.  
Madden Company.  
Marsh & Truman Lumber Company.  
The C. F. Massey Company.  
McGraw-Hill Publishing Company.  
The Miller Train Control Corporation.  
Mercury Manufacturing Company.  
Monroe Calculating Machine Company.  
Mudge & Co.  
National Carbon Company.  
National Lead Company.  
The National Lock Washer Company.  
The National Malleable Castings Company.  
Northwestern Motor Company.  
Nichols, Geo. P. & Bro.  
National Surface Guard Company.  
Ogle Construction Company.  
Okonite Company.  
O'Malley-Beare Valve Company.  
Page Steel & Wire Company.  
Pittsburgh-Des Moines Steel Company.  
Pocket List of Railroad Officials.  
Positive Rail Anchor Company.  
Protective Signal Manufacturing Company.  
Pyrene Mfg. Company.  
Q & C Company.  
The Rail Joint Company.  
The Railroad Supply Company.  
Railway Review.  
Reading Specialties Company.  
Signal Accessories Company.  
Simmons-Boardman Publishing Company.  
Southern Pine Association.  
Squire Cogswell Company.  
Snow Construction Company, T. W.  
Standard Asphalt & Refining Company.  
Standard Underground Cable Company.  
Toledo Scale Company.  
Track Specialties Company.  
Templeton, Kenly & Co.  
Underwood Typewriter Company.  
Union Switch & Signal Company.  
U. S. Wind Engine & Pump Company.  
Verona Tool Works.  
Volkhardt Company.  
Walls Frogless Switch & Manufacturing Company.  
Waterbury Battery Company.  
Wayne Oil Tank & Pump Company.  
Western Electric Company.  
Wyoming Shovel Works.

### Preference List to Be Cancelled

The entire preference list of the War Industries Board, a classification of industries in the order in which they were regarded as essential to the winning of the war, which was the basis for orders giving priority as to transportation, fuel and raw materials, will be cancelled at once, it is announced by Edwin B. Parker, chairman of the priorities committee. Priority orders will continue to be issued, however, to aid in reconstruction work, giving preference in the allocation of materials and facilities to railroads, shipbuilding plants, waterways, public utilities, etc. Steel is already being offered to various manufacturers with assurance of prompt deliveries without priority orders.

The War Industries Board, through the priorities commissioner, has issued a rule giving to lumber orders for the railroads a priority rating higher than that accorded any other class of orders. Lumber priorities for the War Department are cancelled, while priorities for the Navy, Shipping Board and other departments are given an automatic rating of Class A-5. All orders heretofore or hereafter placed by any railroad company in the United States, except private railroads not operated as common carriers, are to be accorded by the mills receiving the order holding the same a rating of Class A-3, the effect of which is to give all railroad orders, whether or not the railroad is under the jurisdiction of the Railroad Administration, a rating higher than that accorded any other class of orders.



## Traffic News

Thirty-five thousand women and children, whose homes are in Canada, but who are now in Great Britain and must soon return, will constitute the first after-war passenger-traffic problem of the railways of Canada. It is expected that these will come over before the demobilization of the Canadian soldiers begins. The Canadian Railway War Board has no idea of discontinuing its activities at present.

The annual convention of the National Industrial Traffic League opened at the Hotel Sinton, Cincinnati, Thursday morning with a record attendance. G. M. Freer, president for the past three years was unanimously re-elected. One hundred and twenty-three new members were admitted during the past year, 15 resigned and 2 were dropped for non-payment of dues, making the total membership 536, a net gain of 106, at the Thursday morning session progress reports were submitted by the committees on weighing, on baggage and on railroad leases and sidetrack agreements.

### Coal Loading

The total loading of all kinds of coal by the railroads during the week ended November 2 amounted to 219,792 cars, as compared with 222,547 in the corresponding week of 1917, according to a weekly report issued by the Railroad Administration. A similar decrease is shown in the estimated reports for the week ended November 9 and is attributed to influenza among the miners and railroad workers. The total increase for the year up to November 9 as compared with the same period in 1917 was 698,661 cars. According to the Geological Survey report the percentage of reduction of full-time output on account of car shortage for the week of November 2 was 5 per cent.

### Reduced Fare for Returning Soldiers

Because of the law allowing only 3½ cents a mile for transportation and sustenance for soldiers and in order to make certain that soldiers will not be required to pay any part of the expense of returning to their homes after being discharged from the Army, Director General McAdoo has authorized a reduction of one-third in the current coach fare for this purpose, making the rate to them approximately two cents a mile. It is estimated that the resulting total reduction of railroad revenue will be \$12,000,000. If the discharged soldiers require sleeping car accommodations, they will pay the additional charge of approximately five mills a mile, in tourist cars, and will have money left to pay for their meals. The low rate will be applicable until further notice to all discharged soldiers as well as to the 132,000 men stationed at the 14 camps throughout the country.

### To Improve Transportation to South America

W. G. McAdoo, secretary of the treasury, as chairman of the United States Section of the International High Commission has taken up with the Shipping Board the question of providing adequate transportation facilities between Latin America and the United States and has made to the Shipping Board a number of suggestions relating to the further prosecution of its constructive plans. These suggestions include the immediate availability of ships for both the East and West coasts of South America and the careful planning of freight allocation so as to avoid empty cargo space on south-bound trips. Improvement of service for the West Indies and the avoidance of confusion and crowding of schedules by a careful adjustment of calling dates are also covered. The United States Section of the International High Commission has requested the Shipping Board to permit vessels now plying between the United States and South American countries, to continue in such employment, except so far as diversion therefrom may be a public necessity.

## Commission and Court News

### Interstate Commerce Commission

#### Classification Hearing

Hearings on various aspects of the proposed consolidated freight classification were held at Washington before Examiner Disque, of the Interstate Commerce Commission, all of last week and most of the present week, at which a large number of shippers and railroad traffic officers gave facts and opinions concerning the proposed rates on various commodities. J. C. Colquitt, the commission's freight classification representative, sat with Examiner Disque. An important announcement was made at the hearing that the commission is considering extending the provisions of the Official Classification, with the rates of the Central Freight Association territory scale, to the territory now covered by the Illinois classification, which would indicate that the commission is in accord with the plan of the Railroad Administration for publishing interstate rates and classifications which shall supersede those of the states.

### Personnel of Commissions

Charles E. Elmquist, the representative at the national capital of the National Association of Railway and Utilities Commissioners, who was elected president of the association at its convention last week, has also been appointed general solicitor for the state commissions in addition to his former duties as solicitor for the valuation committee of the association and secretary of the Special War Committee. He has also been given an assistant and his office will be a general clearing house at Washington for the state commissions, in obtaining information and in appearing before Congressional committees. The Special War Committee was continued, to give attention to after the war problems.

### Court News

Six months in jail, and a fine of \$1,000, is the penalty which has been imposed in the United States District Court, at Charleston, W. Va., in the case of the government against I. K. Dye, formerly traffic manager of the Coal & Coke Railroad Company, for violation of law in unjust discrimination in the distribution of coal cars to mines. Dye was arrested in November, 1917, and was indicted on five counts. According to press despatches he was convicted of favoring certain mines with which he had contracts, at the expense of other mines in the same territory. Attorneys for Dye announced on Tuesday of this week that they would appeal the case to the higher court. Judge Keller suspended execution of the sentence to allow for the appeal.

### Hours of Service—Periods of Rest—Daytime Offices

The Circuit Court of Appeals, Eighth Circuit, holds that two periods, one of 3 hours 7 minutes, and one of 2 hours 24 minutes, during which a telegraph operator in a railroad station, who lived in the building, was off duty, and during which it was his practice to sleep, were substantial periods for rest, and not to be counted as periods of labor under the Hours of Service act.

It is also held that a railroad office, in which the regular hours of the telegraph operator, who is also station agent, are from 7 a. m. to 6 p. m. daily, with an intermission of an hour at noon for dinner, and in which he is required to serve ordinarily from 30 to 40 minutes at 12.35 a. m. and from 30 to 40 minutes at 4.20 a. m., in order to attend to trains, but in which the aggregate of his time on duty does not exceed 13 hours in any 24-hour period, is an office "operated only during the daytime" within the meaning of the act. Judgment for the railroad was affirmed.—United States v. Minneapolis, St. Paul & Sault Ste. Marie, 250 Fed., 382. Decided March 11, 1918.

## Equipment and Supplies

### Cars Constructed in Railroad Shops

The statement of new cars constructed in railroad shops during the month of September, referred to in last week's issue, is as follows:

Class of Cars	Steel Underframe	Wood	Total
Passenger:			
Passenger baggage .....	..	5	5
Milk .....	..	1	1
Total passenger equipment....	..	6	6
Freight:			
Stock .....	..	22	22
Hopper .....	3	144	147
Gondola .....	..	10	10
Flat .....	..	7	7
Work cars .....	..	13	13
Caboose .....	53	68	121
Box .....	..	455	455
Refrigerator .....	10	..	10
Total freight equipment.....	73	712	785

From January 1 to September 30, 6486 freight cars and 92 passenger cars were constructed in railroad shops.

### Railroad Supplies for Army in France

Whether the outstanding orders for cars, locomotives and other railroad supplies placed through the Director General of Military Railways for service in France shall or shall not be cancelled, has not yet been determined. They have been held up since the signing of the armistice, pending a decision as to whether the French government desires the orders completed for its account. This includes the 40,000 freight cars recently ordered. An arrangement was made with the French government by which it might acquire after the war the railway material sent over for the use of the American Expeditionary Forces.

Up to November 1 there had been shipped abroad 16,813 standard-gage and 3,650 narrow-gage freight cars, 1,326 locomotives and 440,650 tons of rails and fittings. The shipments included 251,000 tons of 80-pound rails, 47,955 tons of 67½-pound Russian type rail, 17,053 tons of 25-pound rail and 45,159 tons of fabricated portable track; 14,668 tons of angle bars, 13,393 tons of track bolts, 6,281 tons of spikes, 9,622 tons of (narrow gage) turnouts and 3,261 tons of slip switchers.

### Locomotive Deliveries

A total of 56 locomotives have been delivered by the various builders to the railways during November up to and including November 9, of which 48 were of the U. S. R. A. designs. They were distributed as follows:

Works	Road	Number	Type
American.	Atlantic Coast Line.....	3	U. S. R. A. 6-wheel switchers
	Central New Jersey.....	1	U. S. R. A. 6-wheel switcher
	Chicago & North Western.....	1	Mikado
	Erie .....	5	U. S. R. A. heavy Mikados
	Hocking Valley .....	1	Mallet
	New York Central.....	12	U. S. R. A. 8-wheel switchers
	Michigan Central .....	6	U. S. R. A. light Mikados
	Rutland .....	1	U. S. R. A. 8-wheel switcher
	Southern .....	14	U. S. R. A. light Mikados
	Wheeling & Lake Erie.....	2	U. S. R. A. 8-wheel switchers
Total .....		46	
Lima.....	Illinois Central .....	1	Mikado
	New York Central.....	4	Mohawk
Total .....		5	
Baldwin..	Atchison, Topeka & Santa Fe .....	1	Mikado
	Cleve., Cinn., Chic. & St. L. ....	4	U. S. R. A. light Mikados
Total .....		5	
Grand total.....		56	

In the statement issued on page 876 of the November 15 issue a mistake was made in some of the items for the period of October 27 to 31. Under the American Locomotive Company the deliveries for the Erie should have read: one U. S. R. A. Eight-wheel switcher and five U. S. R. A. heavy Mikados; for the Southern, 11 U. S. R. A. light Mikados, and

for the New York Central, two U. S. R. A. Eight-wheel switchers.

In addition to the number of new locomotives built last month, which was published in last week's issue, 19 were constructed in railway shops, as follows:

Central New Jersey.....	1	Switcher
Louisville & Nashville.....	2	
Pennsylvania Lines East.....	13	Decapod
Pennsylvania Lines East.....	1	Pacific
Southern Pacific .....	2	
Total .....	19	

### Standard Car Deliveries

Of the 100,000 standard freight cars ordered by the Railroad Administration in April, 4,588 had been delivered up to November 14, and of the orders for 1,025 standard locomotives, since increased to 2,030, a total of 426 had been delivered up to that time. The cars were delivered by the various car building companies as follows: American Car & Foundry Company, 1,595; Haskell & Barker Car Company, 594; Pressed Steel Car Company, 1,112; Pullman Company, 146; Ralston Steel Car Company, 191, and Standard Steel Car Company, 950.

The Railroad Administration is now giving out a weekly statement of the car deliveries similar to its statement of locomotive deliveries. The combined statements for the two weeks ending November 9 show the following deliveries amounting to about 800 cars per week:

Road	Number	Type	Manufacturer	Total accepted for given roads
B. & L. E.....	15	55 T. S. Hopper.....	A. C. & F. Co.....	250
C. & N. W.....	245	40 T. D. S. Box.....	A. C. & F. Co.....	972
C. & N. W.....	197	50 T. Comp. Gond.....	A. C. & F. Co.....	607
C. C. C. & St. L.....	21	55 T. S. Hopper.....	A. C. & F. Co.....	21
C. C. C. & St. L.....	126	55 T. S. Hopper.....	Ralston Co. ....	126
C. C. C. & St. L.....	112	55 T. S. Hopper.....	Std. S. Car Co.....	112
C. C. C. & St. L.....	151	55 T. S. Hopper.....	Pressed Steel Car Co.....	151
C. & N. W.....	54	50 T. Comp. Gond.....	Hask. & Bark.....	484
P. & L. E.....	49	50 T. S. Hopper.....	Pressed Steel Car Co.....	49
C. O. & O.....	177	50 T. S. Hopper.....	Pressed Steel Car Co.....	177
N. Y. C.....	90	50 T. Comp. Gond.....	Pressed Steel Car Co.....	90
N. Y. C.....	338	55 T. S. Hopper.....	Std. S. Car Co.....	500
N. Y. C.....	81	55 T. S. Hopper.....	Pressed Steel Car Co.....	501
Total .....	1,656			4,040

### Miscellaneous

The Ogle Construction Company, Chicago, has received a number of contracts for coaling stations on various railroads. It will build a 150-ton capacity frame station on a concrete foundation for the Colorado & Southern at Ft. Collins, Colo., and a station of like capacity for the same road at Trinidad, Colo. These stations will cost about \$18,000 each. It will also build similar stations for the Ft. Worth & Denver City at Amarillo, Texas, Childress and Wichita Falls. It has orders from the Cleveland, Cincinnati, Chicago & St. Louis for a 400-ton station, with a steel sub-structure and a timber superstructure, at Ansonia, Ohio, and a 100-ton timber station on a concrete foundation at Sheff, Ind. At Nelson, Ill., it will build a 350-ton timber station on a concrete foundation for the Chicago & North Western. The station will include a 300-ton coal pocket on one side of the four main line tracks and a 50-ton pocket on the other side, with an auxiliary conveyor connecting them. The company has orders from the same road to build 150-ton stations with frame superstructure and concrete foundation at Casper, Wyo., Scribner, Neb., and Onawa, Iowa.

### Signaling

BUFFALO, ROCHESTER & PITTSBURGH.—A contract has been awarded to the General Railway Signal Company for the installation of an electric interlocking plant at the crossing of the B., R. & P. with the Erie and the Pennsylvania at Riverside Junction, N. Y.

NEW YORK MUNICIPAL RAILWAY CORPORATION.—This company has awarded a contract to the General Railway Signal Company for the installation of alternating current block signals and interlocking on its line under ground, to be built in Sixtieth street, Manhattan, New York City. This line extends under the East River to the Queensboro Plaza, Long Island City.



## Supply Trade News

At a meeting of the board of directors of Fairbanks, Morse & Co., at Chicago, November 13, R. H. Morse was elected vice-president in general charge of purchasing and traffic, and will also continue as a director; C. W. Pank, general director of sales, was elected vice-president in charge of sales of all factory products; W. S. Hovey, general manager of the plant in Beloit, Wis., was elected vice-president in charge of general manufacturing at all factories; W. E. Müller, first vice-president, was elected vice-president and treasurer, and F. M. Boughney, retired as treasurer to become secretary and controller; all with headquarters at Chicago.

### Latin-American Demand for American Steel

Latin-American concerns wishing to specify American structural steel for building and railway purposes can now do so without difficulty by referring to pamphlets in Spanish and English, just issued by the Bureau of Foreign and Domestic Commerce, Department of Commerce. These pamphlets are intended to facilitate sales of such materials in Latin countries, and are published in response to numerous requests from those countries.

The text defines with scientific accuracy the generally accepted American standards, as adopted by the American Society for Testing Materials, and the publication of the series has been made possible by the co-operation of the American Society of Civil Engineers, the Bureau of Standards and the Bureau of Foreign and Domestic Commerce.

The five pamphlets announced are, "Standard Specifications for Structural Steel for Buildings," Industrial Standards No. 8; "Standard Specifications for Structural Steel for Locomotives," Industrial Standards No. 9; "Standard Specifications for Carbon Steel Bars for Railway Springs," Industrial Standards No. 10; "Standard Specifications for Quenched and Tempered Carbon-Steel Axles, Shafts, and Other Forgings for Locomotives and Cars," Industrial Standards No. 12; and "Standard Specifications for Carbon Steel Forgings for Locomotives," Industrial Standards No. 13. These can be purchased at five cents a copy from the Superintendent of Documents, Government Printing Office, Washington, D. C., or from any of the district or co-operative offices of the Bureau of Foreign and Domestic Commerce. Other numbers of the series will follow.

## Trade Publications

**STANDARD WOODEN BUILDINGS.**—The Austin Company, Cleveland, O., has issued an eight-page circular introducing the standardized wooden buildings built by that company to afford the same areas, framing arrangements and other features provided in its standard structural steel buildings. These involve the use of wooden columns and roof purlins with Austin lattice trusses. The smaller standards can be completed within 30 days and the larger ones in 60 days.

**GRAPHITE PRODUCTS.**—The United States Graphite Company, Saginaw, Mich., has published General Catalogue, No. 20, which gives detailed information about the line of lubricating graphite, greases, paints, etc., manufactured by this company. It also includes the report of tests made by the chief engineer of the Interborough Rapid Transit Company of New York, to determine the efficiency of graphite under actual operating conditions, and a number of microphotographs and curves.

**UNITED WAR WORK FUND.**—This fund was the recipient of \$130 on November 15, contributed by passengers on the Twentieth Century Limited. The train was 105 minutes late in reaching Chicago, and the rebate slips of 130 of the 137 passengers were given to George W. Cobb, who turned the amount over to this fund.

## Railway Construction

**BALTIMORE & OHIO CHICAGO TERMINAL.**—A contract has been given to the Drumm Construction Company, Chicago, for building an extension to the roundhouse at Burley Avenue and East Eighty-seventh street, Chicago; the existing 15 stalls 70 feet in length will each be extended 33 feet. The addition will be of reinforced concrete, steel and brick construction, and will be equipped with drop pits and a new heating system. The same contractor will build a two-story brick and reinforced concrete toilet and locker building 24 feet by 81 feet at the same location. The cost of the entire work will be about \$140,000. The road also contemplates the construction of a cinder pit to cost about \$10,000.

**CHICAGO & ALTON.**—This company has awarded a contract to Mulvill Bros., Alton, Ill., for the grading of 12.2 miles of second track on the main line between Renicker, Ill., and Nilwood. Tracklaying will be done by the company's own forces.

**CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.**—The 23-stall enginehouse of this company at Itasca, Wis., was badly damaged by fire recently, 15 stalls being completely destroyed. These will be rebuilt at once, contract having been awarded to Peppard & Fulton, Minneapolis, Minn., and Duluth.

**DETROIT, TOLEDO & IRONTON.**—A contract has been given to the Crowell-Lundoff-Little Co., Cleveland, Ohio, to build an eight-stall engine house and machine shop at Napoleon, O.; the cost of the structure will be about \$80,000.

**ILLINOIS CENTRAL.**—This road is calling for bids on a combination freight and passenger station, 34 ft. by 192 ft., to be constructed at Dawson Springs, Ky. The building will be of brick and frame construction, with a slate roof. It will have a brick platform running the whole length of the structure on the track side, which will be covered with a canopy, with a composition roof. At one end a heavy timber freight platform, 60 ft. by 34 ft., will be constructed. The building will be provided with a steam heating plant. The cost of the work is estimated at \$30,000.

**OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY.**—A freight house is being built at Walla Walla, Wash., to replace one destroyed by fire last July. It will be of frame construction, with concrete foundation, and will cost about \$25,000.

**PENNSYLVANIA LINES.**—This company is preparing plans for an addition to its shops at Fourteenth and Canal streets, Chicago.

**PEORIA, HANNA CITY & WESTERN.**—Construction work is under way on this road, which it is proposed to build from Hollis, Ill., northwest to Hanna City, tapping five coal mines en route and connecting with the Peoria Railway Terminal at Hollis. E. J. Case, Warren Sutliff and George H. Deemy, all of Peoria, Ill., are among the incorporators.

**SOUTHERN.**—This road is engaged in grading for 12 miles of second track out of Bakersfield, Cal., and 10 miles between Tehachapi and Cameron. It will probably be some time before tracklaying is commenced and the major portion of the work will be done next year.

**WESTERN PACIFIC.**—This road proposes to build a concrete bridge at Marysville, Cal., but it is problematical whether it will be constructed this year. When commenced the work will be done by the railroad forces.

**LOCATION OF PURCHASING OFFICES OF BRAZILIAN RAILWAYS.**—In connection with the report on the development of Brazilian railways, published in the *Railway Age* of October 18, page 701, a number of inquiries have been received regarding the location of the purchasing offices of these railways. Information of this character can be obtained from the Bureau of Foreign and Domestic Commerce or its district or co-operative offices by referring to file No. 9465.

## Railway Financial News

**CANADIAN PACIFIC.**—The directors have elected Grant Hall, vice-president of the company, a member of the board to fill the vacancy caused by the resignation of Sir George Bury. Mr. Hall was also appointed a member of the executive committee of the board of directors.

**INTERBOROUGH RAPID TRANSIT.**—This company has arranged, through J. P. Morgan & Co., to issue additional three-year convertible 7 per cent notes to the amount of about \$6,000,000. This amount represents, approximately, the balance of the issue of \$39,700,000 authorized some time ago, \$33,400,000 of which have been issued.

**KANSAS CITY TERMINAL.**—The Continental Commercial Trust and Savings Bank of Chicago has purchased, in conjunction with the Halsey-Stuart Company, an issue of \$9,850,000 Kansas City Terminal Railway Company five year 6 per cent notes, which are secured by \$13,783,000 first mortgage bonds of the Terminal company and will be offered for sale in the near future.

**LEHIGH VALLEY.**—The stockholders at a special meeting adopted a resolution authorizing the directors to execute the contract with the director general. The compensation fixed by the government was \$11,321,233, but this sum is subject to such charges and corrections as the Interstate Commerce Commission may decide upon.

**NEW YORK CENTRAL.**—The loan of \$6,000,000 at 6 per cent interest made by the Central Trust Company to the New York Central last May, has been extended for six months at the same rate of interest.

**NEW YORK, ONTARIO & WESTERN.**—The stockholders have voted to accept the company's contract with the government for the use of its road during federal control. The amount of the company's rental compensation has been fixed at \$2,103,589.

**TOLEDO, ST. LOUIS & WESTERN.**—The attorneys for this railroad filed a brief in the United States District Court at Toledo on November 19, attacking the power of the director general of railroads. The brief is in answer to an order from Director General McAdoo to Walter L. Ross, receiver for the railroad, to purchase 1,250 freight cars at a cost of \$3,572,250. Stockholders protested the order. The Ross petition refers to the proclamation of the President of the United States taking possession on Dec. 28, 1917, of all railroads, in which the President said: "Investors of railway securities may rest assured that their rights and interests will be as scrupulously looked after by the government as they could be by the directors of the several railroad systems." The company, through its receiver, contends that payment for the equipment should be made from the revolving fund at the director general's disposal, under the congressional act. Hearing was set for Nov. 25.

**RAILWAY TO CHIMNEY MOUNTAIN, CHINA.**—The Peking-Suiyuan Railway administration is contemplating the construction of a branch line from Hsuanhuafu to Yentungshan, or Chimney Mountain, which is reported to be rich in coal and iron ores. In a memorandum to the Ministry of Communications, the administration states that the government sometime ago proposed to develop the iron and coal mines of Yentungshan, but to ensure success, transportation facilities should be the foremost consideration. A branch line connecting Yentungshan with the Peking-Suiyuan Railway can be easily built and this branch line would also be of use to other mines in the region. The Ministry of Communications has approved the project and surveying parties have been sent out to survey the route. The Peking-Suiyuan administration has also sent deputies to arrange for the purchase of land for the branch line. The land will be bought according to the land-purchase regulations of the Peking-Suiyuan Railway. The construction work on this branch line will begin as soon as the land is bought. The first railway station will be situated at Houchiamiao, of Hsuanhua.—*The Far Eastern Review.*

## Railway Officers

### Railroad Administration

#### Central

**V. P. Turnburke**, statistician of the Great Northern, has been appointed assistant manager of the Operating Statistics Section, with office at Washington, D. C., succeeding **Joseph L. White**, who has been appointed assistant to **G. H. Parker**, assistant to the assistant director general of railroads.

#### Federal and General Managers

**V. C. James** has been appointed assistant to Federal Manager **J. S. Pyeatt**, with headquarters at Dallas, Texas., succeeding **O. M. Colston**, resigned.

The title of **W. L. Park**, general manager of the Chicago Great Western, with headquarters at Chicago, has been changed to federal manager, effective November 14.

**F. E. House**, general manager of the Duluth & Iron Range, and the Duluth, Missabe & Northern, with office at Duluth, Minn., will hereafter have the title of federal manager.

The title of **W. H. Bremner**, general manager of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., has been changed to federal manager, effective November 14.

**A. J. Davidson**, general manager of the Oregon Trunk, the Oregon Electric, and the Spokane, Portland & Seattle, has been appointed federal manager, with office at Portland, Ore., effective November 14.

**G. F. Hawks**, whose appointment as federal manager of the El Paso & Southwestern and the El Paso Union Passenger Depot Company, with headquarters at El Paso, Texas, was announced in the *Railway Age* of November 8, entered railway service in 1874 and has been connected with the El Paso Southwestern since April 1, 1907, when he became general superintendent. He was promoted to general manager on September 1, 1915, and was elected vice-president and general manager on October 24, 1917. In July last he was appointed general manager under federal administration, which position he held until November 1, when he was appointed federal manager as above noted. A portrait of Mr. Hawks was published in the *Railway Age* of August 30, page 394.

**E. J. Pearson**, federal manager of the New York, New Haven & Hartford, the Central New England, the New York Connecting, the Wood River Branch Railroad, the Union Freight Railroad, the Narragansett Pier Railroad, the Boston Terminal, the New England Steamship Lines, the Hartford & New York Transportation Line and the New Bedford, Martha's Vineyard & Nantucket Steamship Line, announces the following appointments, effective November 1: **B. Campbell**, assistant to federal manager and traffic manager on all lines, with headquarters at New Haven, Conn.; **C. L. Bardo**, general manager, and **Edward Gagel**, chief engineer, on all the railroad lines, both with headquarters at New Haven; **J. H. Gardner**, manager on all the steamship lines, with headquarters at New York; **J. C. Sweeney**, general solicitor; **George G. Yeomans**, purchasing agent; **H. S. Palmer**, federal auditor, and **A. S. May**, acting federal treasurer, for all lines, and all with headquarters at New Haven. **W. H. Wright** has been appointed manager of the Boston Terminal, with headquarters at Boston, Mass.

**James Russell**, whose appointment as general manager of the Denver & Rio Grande, the Rio Grande Southern, the Denver Union Terminal and the Salt Lake City Union Depot and Railroad, with headquarters at Denver, Colo., has been announced in these columns, was born at Duntroon, Ont., on February 27, 1865. He began railway work in 1878, and until 1882 was telegraph operator and agent on the Hamilton & Northwestern. The following two years he was employed



as telegraph operator on the Chicago, St. Paul, Minneapolis & Omaha, the Union Pacific and the Atchison, Topeka & Santa Fe, and subsequently until 1887 was telegraph operator and train despatcher on the Michigan Central. From the latter date to 1898, he was with the Great Northern successively as train despatcher, chief despatcher and superintendent. He was then engaged in other business for five years, returning to railway work in 1903 as superintendent of the Missouri Pacific. From 1907 to 1909, he was superintendent on the Chicago, Burlington & Quincy, and in the following four years was general superintendent of the Spokane, Portland & Seattle. Later he was general superintendent of the Great Northern, and in 1914 he went to the Denver & Rio Grande, where he remained until 1917 as assistant to vice-president and general manager. He was subsequently vice-president and general manager of the Minneapolis & St. Louis, and later—September-November—was vice-president and general manager of the St. Louis Southwestern. He then returned to the Denver & Rio Grande as vice-president in charge of operation, and in July last, was appointed assistant general manager under federal control. On November 1 he was appointed general manager of that road and other lines as mentioned above.

### Operating

**M. S. Montgomery** has been appointed fuel supervisor of the Northern Pacific, with headquarters at St. Paul, Minn.

**J. L. Durland**, general fire prevention inspector of the Southern Pacific Terminal Company and the Galveston Wharf Company, with headquarters at Galveston, Texas, has had his jurisdiction extended to include all Galveston terminals.

The authority of **D. B. Daley**, superintendent of safety of the Kansas City Southern and other lines under the jurisdiction of **J. A. Edson**, federal manager, with headquarters at Kansas City, Mo., has been extended over the Missouri & North Arkansas.

**F. N. Tinsman**, superintendent of the Pan Handle division of the Chicago, Rock Island & Pacific, with headquarters at El Reno, Okla., has been transferred to the Colorado division, with office at Colorado Springs, Colo., succeeding **J. A. McDougal**, who succeeds Mr. Tinsman.

**L. W. Bowen**, general superintendent of the Great Northern, at St. Paul, Minn., having been granted an extended leave of absence, **P. F. Keating**, general superintendent, at Superior, Wis., has been appointed general superintendent of the Eastern district, and **D. J. Flynn**, trainmaster at Grand Forks, N. D., has been appointed assistant superintendent of the Superior and Mesabi division, with headquarters at Superior, Wis.

**F. M. Clark**, heretofore superintendent at New London, has been appointed superintendent of the Danbury division of the New York, New Haven & Hartford and of the Central New England, with office at Danbury, Conn., in place of **H. C. Oviatt**, promoted; and **R. M. Smith** has been appointed assistant superintendent of the New Haven division of the New York, New Haven & Hartford, with headquarters at New London, Conn. The New Haven division now includes what was formerly the New London division.

**T. J. Brady**, superintendent of the Baltimore & Ohio, Eastern Lines, with office at Pittsburgh, Pa., has been appointed superintendent of the Keyser division, with headquarters at Keyser, W. Va. The Keyser division was recently created and consists of that portion of the Cumberland division formerly known as the West End, west from Viaduct Junction, Cumberland, to the east end of Grafton Yard. **C. B. Gorsuch** has been appointed acting superintendent of the Cumberland division, with headquarters at Cumberland, Md. The Cumberland division has been changed to cover that portion which was formerly known as the East End, extending from Viaduct Junction, Cumberland, to the west end of Brunswick Yard, including the Romney and Berkeley Springs branches, and the line between Patterson Creek and McKenzie. **E. P. Welshonce**, trainmaster at Keyser, has been appointed assistant superintendent and **M. A. Carney**,

road foreman of engines, has been appointed trainmaster; both with offices at Keyser.

### Financial, Legal and Accounting

**J. M. Metheany**, assistant secretary of the Grand Rapids & Indiana, with office at Grand Rapids, Mich., has been appointed auditor.

**A. C. Torbert**, acting federal treasurer of the Houston Belt & Terminal, also has been appointed acting federal treasurer of the Galveston Wharf Company, with office at Galveston, Texas.

**Martin Walsh**, assistant general manager and traffic manager of the Memphis, Dallas & Gulf, has been appointed acting federal treasurer, with office at Nashville, Ark., effective November 1.

**Arthur E. Haid** has resigned as assistant general attorney of the St. Louis-San Francisco to enter the general practice of law at St. Louis, Mo., and will be associated with Holland, Rutledge & Lashly.

**G. R. Cottingham**, federal auditor of the Southern Pacific Terminal Company and the Galveston Wharf Company, with office at Houston, Texas, will also have jurisdiction over all Galveston terminals.

**George Thompson**, general solicitor and **A. J. Biard**, federal auditor, of the Texas & Pacific, the St. Louis Southwestern, of Texas, and other lines under the jurisdiction of **J. L. Lancaster**, federal manager, both with headquarters at Dallas, Tex., will also have authority over the Dallas Terminal & Union Depot. **J. W. Hogan** has been appointed acting federal treasurer of the latter company, with office at Tyler, Tex.

### Traffic

The jurisdiction of **Gentry Waldo**, traffic manager of the Wharf Company, has been extended to include all Galveston Southern Pacific Terminal Company and the Galveston Wharf Company, has been extended to include all Galveston terminals.

The following officers of the Missouri Pacific will also have jurisdiction over the Arkansas Central, the Natchez & Southern and the Natchez & Louisiana Railroad Transfer: **W. A. Rambach**, assistant freight traffic manager, St. Louis, Mo.; **W. I. Jones**, general freight agent, St. Louis; **D. R. Lincoln**, **C. E. Warner**, **J. F. Harris** and **G. H. Hamilton**, assistant general freight agents, all with headquarters at St. Louis. **C. C. P. Rausch**, assistant freight traffic manager, and **W. M. Cook**, assistant general freight agent, both with office at St. Louis, will, in addition to the above roads, have authority over the Memphis, Dallas & Gulf. **R. M. McWilliams**, division freight agent at Little Rock, Ark., will have included in his territory the Memphis, Dallas & Gulf; **Dan Jacobs**, division freight agent at Alexandria, La., will also have authority over the Natchez Southern and the Natchez & Louisiana.

### Engineering and Rolling Stock

**C. B. Smith** has been appointed general foreman of the Philadelphia division of the Baltimore & Ohio, with office at Philadelphia, Pa.

**E. L. Grimm**, mechanical valuation engineer, has been appointed mechanical engineer of the Northern Pacific, with headquarters at St. Paul, Minn., vice **W. J. Bohan**, promoted.

The jurisdiction of **I. A. Cottingham**, chief engineer of the Southern Pacific Terminal Company and the Galveston Wharf Company, with office at Houston, Texas, has been extended to include all Galveston terminals.

**T. F. Donahue**, general supervisor of road on the Baltimore & Ohio, Eastern Lines, with office at Pittsburgh, Pa., has been appointed roadmaster in charge of maintenance of way and structures, with headquarters at Keyser, W. Va.

**A. H. Hodges**, master mechanic of the Baltimore & Ohio, Eastern Lines, with office at Glenwood, Pittsburgh, Pa., has been appointed master mechanic, and **L. Clamblitt**, assistant road foreman of engineers, with office at Cumberland, Md.,

has been appointed road foreman of engines; both with headquarters at Keyser, W. Va.

**H. C. Oviatt**, heretofore superintendent, at Danbury, Conn., has been appointed superintendent of motive power of the New York, New Haven & Hartford; the Central New England, the New York Connecting, the Wood River Branch, the Union Freight Railroad and the Narragansett Pier Railroad, with headquarters at New Haven, Conn.

**E. G. Chenoweth**, mechanical engineer in charge of car design on the Rock Island Lines, with office at Chicago, Ill., has been appointed mechanical engineer with authority over both locomotives and cars, in place of **G. S. Goodwin**, mechanical engineer in charge of locomotive design, who has resigned to accept the position of corporate engineer of equipment.

**J. T. Wilson**, district engineer of the Baltimore & Ohio, with office at Baltimore, Md., has been appointed consulting engineer of the Baltimore & Ohio Eastern Lines, the Coal & Coke, the Wheeling Terminal Railroad, the Western Maryland, the Cumberland Valley, and the Cumberland & Pennsylvania. **Richard Mather**, district engineer at Huntington, W. Va., is now district engineer, with headquarters at Baltimore, Md., and **A. C. Clarke** has been appointed district engineer.

**E. F. Mitchell**, chief engineer of the Texas & Pacific, the St. Louis Southwestern of Texas, the International & Great Northern (excluding line from Spring to Ft. Worth and the Madisonville branch), the Trinity branch of the Missouri, Kansas & Texas of Texas, the Beaumont & Great Northern, the Galveston, Houston & Henderson, the Houston & Brazos Valley, the Trans-Mississippi Terminal and the Weatherford, Mineral Wells & Northwestern, with office at Dallas, Tex., will also have jurisdiction over the Dallas Terminal Railroad & Union Depot.

**H. J. Armstrong**, engineer maintenance of way of the Missouri & North Arkansas, has been appointed division engineer at Harrison, Ark. **V. V. Kirkpatrick**, formerly assistant division engineer of the Kansas City Southern, has been appointed valuation engineer of Missouri & North Arkansas, with headquarters at Kansas City, Mo. The jurisdiction of **C. S. Heritage**, bridge engineer, and of **R. E. Van Atta**, principal assistant engineer of the Kansas City Southern, both with headquarters at Kansas City, has been extended over the Missouri & North Arkansas.

### Purchasing

**N. P. Randolph**, purchasing agent of the Southern Pacific Terminal Company and the Galveston Wharf Company, with headquarters at New Orleans, La., will also have authority over all Galveston terminals.

The jurisdiction of **R. L. Irwin**, purchasing agent of the Texas & Pacific, the St. Louis Southwestern of Texas, and other lines under the authority of Federal Manager **J. L. Lancaster**, with office at Dallas, Tex., has been extended to include the Dallas Terminal Railroad & Union Depot.

## Corporate

### Executive, Financial, Legal and Accounting

**J. A. McCoy** has been appointed auditor and general freight and passenger agent of the North Louisiana & Gulf, with headquarters at Hodge, La.

**A. F. Allen**, secretary of the Newburgh & South Shore, with office at Cleveland, Ohio, has been elected treasurer, vice **S. H. Berwald**, resigned, and **G. J. Gazeley** continues as assistant treasurer.

**John F. Auch**, freight traffic manager of the Philadelphia & Reading, has been appointed vice-president, and **Howard F. Glazier** has been appointed assistant treasurer, both with headquarters at Philadelphia, Pa.

The executive committee of the New York, Chicago & St. Louis announces the following corporate officers: Chairman

of the board and president, **O. P. Sweringen**; vice-presidents, **M. J. Van Sweringen**, **W. S. Hayden**, **J. R. Nutt** and **C. L. Bradley**; vice-president and general counsel, **H. D. Howe**; secretary, **W. D. Turner**; treasurer, **L. B. Williams**; assistant treasurer, **A. M. Spencer**; controller, **L. R. Deevers**; all with headquarters at Cleveland, Ohio.

### Purchasing

**Paulino López**, purchasing agent of the Constitutionalist Railways of Mexico, with office at Mexico, Mex., has resigned, and his former position has been abolished; **Augustus Herrera** succeeds Mr. López, with the title of assistant to the general purchasing agent, taking charge of all matters heretofore handled by the former. Mr. Herrera was formerly purchasing agent for the National Railways of Mexico, having resigned that position when the Constitutionalist Railways of Mexico took full control of the railway lines in Mexico.

### Operating

**W. J. Uren**, superintendent of the Canadian Pacific, at Toronto, Ont., has been appointed superintendent of the Farnham division.

**T. H. Hamilton**, assistant superintendent on the Canadian Pacific, with office at Trenton, Ont., has been appointed assistant superintendent on the Smith's Falls division, with office at Smith's Falls, in place of **J. A. Cook**, resigned.

**J. A. Tobin**, assistant superintendent of the Canadian Pacific, at Toronto, Ont., has been transferred to the Trenton division, with headquarters at Trenton, Ont., succeeding **T. H. Hamilton**, transferred to the Smith's Falls division, with office at Smith's Falls, Ont., in place of **J. A. Cook**, resigned; effective November 14.

**John Kenneth Savage**, whose appointment as assistant general superintendent of the Canadian Pacific, with headquarters at Toronto, Ont., has already been announced in these columns was born on October 5, 1876, at Forrester, Ill., and was educated in the public schools. He began railway work on March 1, 1890, with the Canadian Pacific, and served as station agent at various places in Quebec, until May, 1894, and then for three years was despatcher at Farnham, Que. From January to September, 1904, he was night chief despatcher at Toronto, and then to September, 1906, was inspector of train despatching, Western lines, with headquarters at Winnipeg, Man. He was then to the following March, chief despatcher at Kenora, Ont., and later served as trainmaster at Brandon, Man. From December, 1908, to January, 1912, he was chief despatcher at Central Brandon and then to January, 1917, he was superintendent of the Regina division, Saskatchewan. He then served as superintendent of the Smith's Falls division at Smith's Falls, Ont., until his recent appointment as assistant general superintendent on the same road as above noted.

### Engineering and Rolling Stock

**A. F. Rust**, valuation engineer of the Kansas City Southern, has been appointed consulting engineer for the corporation, with headquarters at Kansas City, Mo.

**Samuel T. Wagner**, chief engineer of the Philadelphia & Reading, has been appointed chief engineer for the corporate company, with headquarters at Philadelphia, Pa.

**W. J. Robider**, master car builder of the Central of Georgia, with office at Savannah, has been appointed general master car builder of the Canadian Pacific, with headquarters at Montreal, Que., succeeding **C. W. VanBuren**, deceased. Mr. Robider was born on February 15, 1869, at Savannah, Ga., and entered the service of the Central of Georgia as an apprentice in the car department in October, 1884. He subsequently served as foreman in the passenger shop and then as general foreman of the car department. In October, 1905, he was promoted to master car builder and since the government took control of the railroads in the United States, he has served as an alternate member of the Committee of Standards and Inspection. His appointment as general master car builder of the Canadian Pacific became effective on October 15.